SOCIO-ECONOMIC INEQUALITY AMONG CHILDREN IN SUB SAHARAN AFRICA:
TRENDS, DRIVERS AND INSTITUTIONAL BUFFERS

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SOCIO-ECONOMIC INEQUALITY AMONG CHILDREN IN SUB SAHARAN AFRICA: TRENDS, DRIVERS AND INSTITUTIONAL BUFFERS

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Children in sub Saharan Africa are growing up in an environment of poverty, chronic hunger, disease and inequality. Previous literature documents the nature, causes, and consequences of poverty but largely ignores inequality. Yet, ongoing economic, demographic and cultural transformations suggest possible divergence in both economic investments and social outcomes for children. This dissertation provides several substantive, theoretical, methodological, and policy contributions towards an understanding of socio-economic inequality among children within and across sub Saharan African countries. Methodologically, it draws on data from Penn World Tables, World Bank World Development Indicators, and Demographic and Health Surveys to explore three issues. First, it applies standard inequality measures to estimate levels and trends in educational resource and mortality inequality among children. Second, it applies decomposition techniques to account for factors that drive resource inequality. Third, it evaluates the effectiveness of informal institutions that are historically relied upon to buffer inequality among children. Specifically, it applies an innovative concentration index to evaluate the macro level effectiveness of African extended family systems and how they changed over time. Additionally, it estimates multivariate regression models that explain variation in fosterage prevalence and effectiveness across countries. Substantively, this study reveals substantial levels of educational resource inequality among children that are partly driven by the size of

country's economy and countries' relative allocation to children. In addition, demographic factors such as age dependency drive inequality more than the size of child population within country per se. Further, the study cautions against inferring about children's experiences from adult data as observed resource inequality among children is more than double adult rates. While child mortality inequality between countries is low, DHS data reveals steep mortality gradients along socio-economic lines within countries. With significant variation across countries, the African extended family system continues to buffer inequality among children in terms of scope of coverage but its effectiveness waned over time in some countries. Overall, the study makes theoretical propositions about trends, drivers, and buffers of inequality among children. Like poverty, inequality deserves a place at the center of intellectual enquiry and policy debates on children's wellbeing in sub Saharan Africa.

BIOGRAPHICAL SKETCH

Vongai Kandiwa was born on the 4th of December 1973 in Zimbabwe. She was raised by her mum and dad (Jessie and Patrick Mubvumba), her late maternal grandmother (Sarah Manomano), and her aunt (Gogo Mhayi Helen Nhando). She was educated at Zengeza 4 Primary School in Chitungwiza and completed her secondary school or "O" Levels at Sandringham High School in Norton. She studied for her "A" levels at Thornhill High School in Gweru. She holds a Bachelor's degree in Agricultural Economics (Honors) from the University of Zimbabwe, two Masters Degrees from Cornell University in Applied Economics and Management and in Development Sociology. She has worked for the University of Zimbabwe, the Zimbabwe Open University, the Rockefeller Foundation, and consulted for the Catholic Relief Services. Vongai and Charles Majaha have two wonderful children (Moira and Vimbai). She has three brothers (Prosper, Tino, and Kuda) and four sisters (Patricia, Patience, Priscilla, and Wadzie). She enjoys reading African novels, watching soccer, tennis and golf, and keeps telling herself that one day she will learn from Vimbai and how to do push- ups properly.

To my Mother, and all Mothers who sacrifice, encourage, and inspire

And

To the spirits of all children who grow without in a world filled with plenty

ACKNOWLEDGMENTS

Few people can claim that they have the best mentors in the world – and mean it. I am one of the few because I am fortunate to have studied under the guidance of three amazing scholars: Professors Parfait, M. Eloundou-Enyegue (Development Sociology and Demography), Professor Ralph, D. Christy (Applied Economics and Management), and Professor Josephine Allen (Policy Analysis and Management). Clearly, the art of guidance, mentorship, and constructive criticism is one that God did not provide in abundance to all mortals. Yet, the greatest mystery is how I was able to study under the guidance of this select group of individuals who epitomize everything a confused student could need for mentors. My Chair, Professor Parfait Eloundou-Enyegue has been a strong pillar of support during my graduate training. With much poise and grace, he watched my every step, presided over several tear filled moments, and yet lived to provide me with meticulous counsel especially during times when I simply lost my sense of purpose. I cannot thank him enough. I am deeply indebted to my committee members Prof. Ralph Christy and Prof. Josephine Allen. To me, Ralph is more than an academic mentor. He is a role model, a lifelong colleague, and a friend. Since we met in 1996 deep in the wilderness of Mutoko while carrying out research on the state of smallholder horticulture in Zimbabwe, Ralph remains a valued colleague in my academic and professional life. I will always remember one of many Ralph profound statements -- 'To whom much is given, much is expected'. I hope my career trajectory will take me to realms where I can begin to live up to the essence of this powerful statement. My dissertation would not have been complete without the guidance of Professor Josephine Allen, a true role model whose academic excellence and world class leadership pales in comparison to the great humility she exudes. Apart from her guidance on my dissertation, Josephine introduced me to the Cornell Gender and Social Change Program that sharpened my perspective on gender theory and practice. During the conceptual phase of my dissertation I also received tremendous help from Dr. Mary Kritz to whom I am forever grateful. Several other Professors enriched my academic training at Cornell University. In particular, I am

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I am also grateful for the inspiration I received from my two primary school teachers Mr. Henry Karikoga Motsi and Mr. Alexander Kanengoni who taught me to believe in myself, and to love school. Still, it is Dr. Ruvimbo Mabeza-Chimedza whom I owe the greatest gratitude for my graduate training. Raised in a family where no one had studied at graduate level, it took the leadership of Dr. Mabeza-Chimedza to help me envision the possibility of graduate studies in the US. Because of her, I earned not only an MS in Applied Economics at Cornell, but also, a friend and true leader whose dedication to gender equality and social justice is both inspirational and path breaking. While the idea of studying for a Doctorate was inspired by Ralph Christy and Ruvimbo Chimedza, it was made possible by the mentorship of Dr. Akin Adesina. I do not have sufficient words to describe the value of both the material and academic support I received from Akin especially during the years at the Rockefeller Foundation. From Akin I learned the virtue of a good work ethic and the unwavering commitment to evidence based approaches to development practice. In short, I am forever grateful to this group of individuals.

I gratefully acknowledge the generous funding from The Rockefeller Foundation. Additionally, my studies were made possible through the support of the Department of Development Sociology, First Presbyterian Church Hunger Project, the Institute for African Development, the Cornell Population Program, the Polson Institute of Population Studies, and the International Students and Scholar's Office.

Separated from my family, it took the collective effort of a bunch of friends to help me remain focused on my studies. I owe a tone of gratitude to Deladem Kusi-Appouh, Sarah Giroux, Fatou Jah, Anila Rehman, Alana Butler, Lauren Meador, Rachel Reichenbach, Sara Rzayeva, Scott and Jen Sanders, Amanda Flaim, Dan Alquist, Megan Gemelscheider, Dan Lumonya, Harriet Lumonya, and Andrea Woodward. Additionally, Kristin Ramsay and her family (Chris, Joshua, Makenna, as well as Bill and Doris) redefined the meaning of friendship for my daughter Vimbai and I. The Ramsay family enriched our stay in Ithaca in more ways

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To earn this Doctorate, I paid a high price in the personal relationships that matter most. I owe the greatest gratitude to my hero and my friend, Charles Majaha. In my heart a special place is engraved with your name. Nothing can make up for the continued absences at a time when my children needed me most. I only wish my son Andy had lived to see me graduate. Andy tragically passed away on 25 April 2011, within weeks of my graduation. But, I am grateful for the loving support provided to my kids by my sister and best friend, Wadzie. I will forever be indebted to her. I am aware that for every tear I shed, for every lonely day, and behind every small triumph lay the grace and love of my mother in law Mbuya Majaha who prays for me every single day of her life. I thank her. I also want to thank my immediate yet extended family -- Sis. Spe, Mkoma Benson, Mkoma Lucky, Mai Locardia who gave so much of themselves and received so little in return. In addition, I remember four dear individuals whom I lost during the time I as in graduate school: my gradmother Sarah Manomano as well as my three brothers Washington Sadomba, Fibion Mubvumba, and Peter Mubvumba. Last, this dissertation is dedicated to my mother, Mrs. Jessie Mubvumba for a reason. A mother, an aunt, a self made business woman, and a grandmother, you gave so much of yourself so that we could be what we are. The least I can say is thank you. I also would like to thank my dad, Mr. Patrick Mubvumba for his love, passion and commitment to my family and children while I was away.

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CHAPTER 1

INTRODUCTION

1.1 The Problem

Inequality, especially inequality among children in sub Saharan Africa is understudied and underappreciated. The sheer scope and depth of poverty, hunger, malnutrition, and infant mortality often seems daunting. Understandably, a rich literature captures the scope, trends and consequences of growing up in poverty, hunger or malnutrition (Pinstrup-Andersen *et al* 1999; Sanchez 2002; Borlaug 2002; Toenniessen et al 2008; Ejeta 2010; Ahmed *et al* 2007; UN 2009 and others). While this literature is helpful, it provides an incomplete picture on the diverging destinies of African children. In particular, a focus on poverty typically evaluates the circumstances of the component of the population that is at the lower ranks of the distribution without paying similar attention to the welfare impacts on the rest of the population distribution. The paucity of knowledge on inequality among children is rather surprising given ongoing economic, demographic and cultural transformations that portend a future of divergence in children's social outcomes (Shapiro and Tambashe 2001; Madhavan 2004). At a time when the world adopted universal welfare standards for children, it is important to evaluate the extent to which the playing ground for children in Africa remained flat, at least in terms of economic opportunities and social outcomes. Moreover, existing theories fail to provide clear signals on the nature of, and future of inequality among children. Theories also fail to provide sufficient guidance on the effectiveness of institutions that may buffer inequality among children. Optimists believe globalization improves welfare for all. Like a rising tide that lifts all boats, globalization is expected to pay off for most people (Sachs 2005) and systematic studies document this equalizing effect (Firebaugh and Goesling 2004). Yet, these global trends mask substantial regional differences. For instance, while global income inequality converged over

time, the opposite is true across sub Saharan African countries (Kandiwa 2006). Further, aggregate trends may not mirror trends within subgroups or within national populations (Eloundou-Enyegue and Rehman 2009). On the other hand, uneven fertility transitions, economic and cultural transformations portend a future of greater inequality among children. For instance, uneven fertility transitions within and across countries portend inequality in as much as they alter average resources available to children, and the share of child population in individual African countries respectively (Shapiro and Tambashe 2001). Similarly, economic downturns affect countries capacity to allocate resources to children. Moreover, cultural transformations such as westernization and family nucleation could weaken traditional mechanisms that buffer inequality among children such as the African extended family system as family become unwilling to foster children from less fortunate backgrounds (Madhavan 2004). Overall, previous studies document dynamics of global and regional economic inequality as well as global inequality among children. But, few studies systematically examine the nature of resource inequality among children in sub Saharan Africa or explicate salient drivers and buffers of observed inequality.

1.2 Study Objectives

This study has three main objectives. First, it aims to document the levels and trends of socio-economic inequality among children in sub Saharan Africa. Second, it accounts for factors that drive changes in economic inequality over time. Lastly, it examines the effectiveness of existing institutional mechanisms that traditionally buffer inequality among children. Specifically, the study evaluates the changing effectiveness of informal African Extended Family Systems.

1.3 Research Questions

The study is guided by the following set of research questions:

Determining the trends in resource and outcome inequality among children

(i) What are the levels and trends in educational resource inequality among sub Saharan African children?

(ii) How do observed trends in resource inequality among children compare to those among adults?

(iii) What are the levels and trends in child mortality inequality within and across countries in sub Saharan Africa?

Determining Drivers of Inequality

(i) What factors account for the observed changes in inequality over time?

Determining the effectiveness of mitigating institutions: African Extended Family System

i) How prevalent is the practice of child fosterage and what factors explain cross country differences in scope of fosterage?

ii) How effectively does the informal mechanism of child fosterage operate at national level and how has the effectiveness changed over time within and across countries?

iii) Does fosterage effectiveness vary across gender?

iv) What contextual factors explain observed differences in fosterage effectiveness across space in sub Saharan Africa?

This moment is apposite to examine cross country inequality in sub Saharan Africa, as well as change over time because large datasets such as the World Bank and Demographic Health Surveys are now publicly available.

1.4 Study Hypotheses

The study is guided by three key hypotheses. First, Income and health inequality among children are not only high, but have grown over time. Second, economic and demographic factors account for a large proportion of the growth in socio-economic inequality among

children. Third and finally, the macro level effectiveness of the African extended family system in buffering inequality among children has waned over time.

1.5 Central thesis

The central thesis of this dissertation is that inequality among children in sub Saharan Africa is not only high, but has been increasing within the last two decades. I argue that the level and changes in inequality are largely driven by the balance between two competing forces which I call *catalysts* and *buffers, respectively,* of inequality (Figure 1.1).

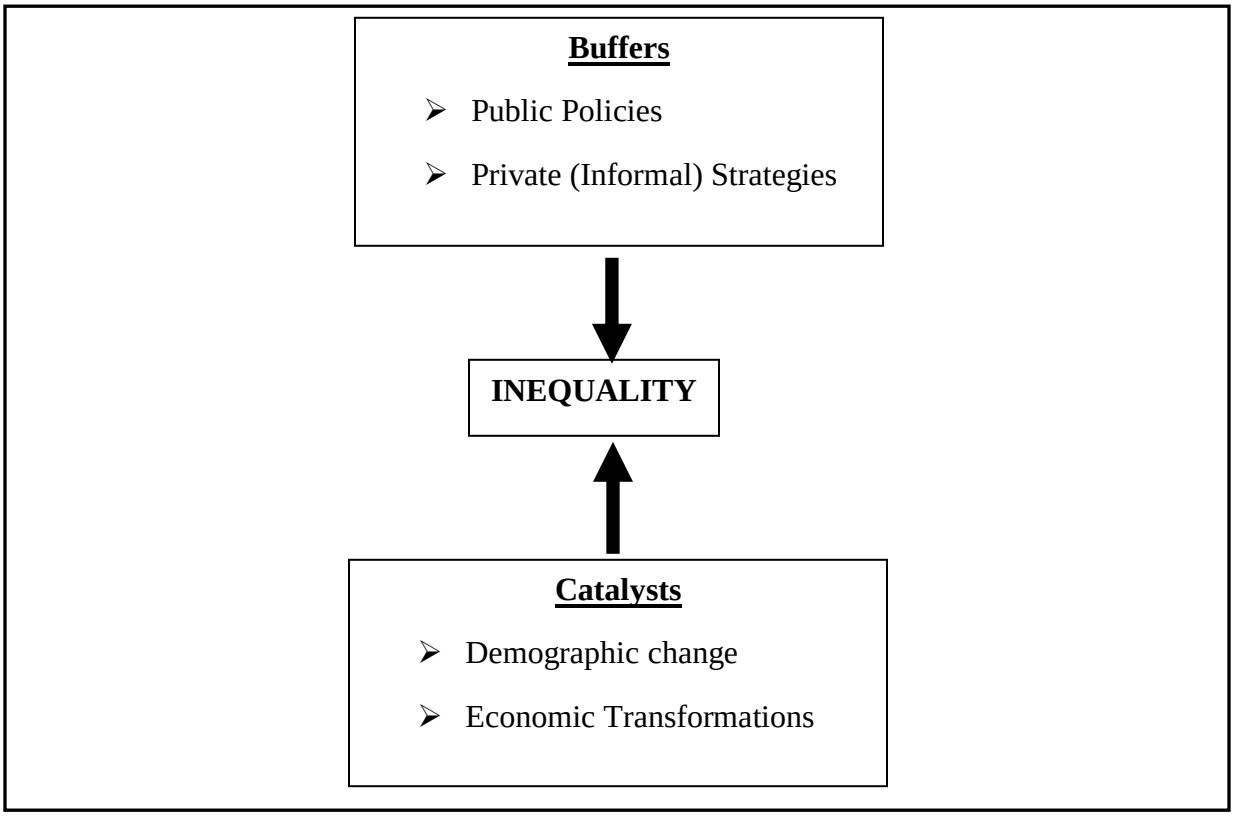


FIGURE 1.1. Catalysts and Buffers of Inequality among Children in sub Saharan Africa

Catalysts comprise factors that tend to exacerbate inequality rather than contain it. I identify two main forces that are driving the growth of inequality among children; demographic change and

economic transformations. First, inequality is driven by differential shifts in population size as well as in the composition of that population (changes in age dependency ratio). Secondly, income inequality is driven by economic transformations in the region which allow for disproportionate income growth across geographical locations and downturns in others. *Buffers*, on the other hand, comprise forces that work towards reducing levels of inequality among children. These buffers include public policies and private strategies. First, the state is capable of reducing inequality through the political will to redistribute resources. For instance, the state can (1) increase resources available to children or (2) target resources towards particularly disadvantages groups through measures such as supporting orphanages or providing financial resources for formal social safety nets. These safety nets could be drawn upon to support foster care programs, initiate programs that directly target the poor's access to health and education for instance. Apart from formal public policies, inequality among children in sub Saharan Africa is buffered informally through private strategies. For example, in the absence of effective formal safety nets, the African extended family has historically been relied upon to equalize opportunities among children. Because a large number of children depend on this cultural practice, its effectiveness has a large bearing on levels of inequality among children, and how they change over time.

Overall, I argue that the momentum for future inequality is already in motion. First, catalysts such as demographic change and economic transformations foster the increase in inequality. Additionally, factors that we might generally expect to buffer inequality are actually working towards increasing it. That is, the political will to invest in inequality reducing strategies is not met with the economic ability to do so. Moreover, the effectiveness of cultural practices such as child fosterage in buffering inequality among children waned over time in some countries. Taken together, these factors portend an uneven landscape for children in Africa.

1.6 Organization of Dissertation

The rest of the dissertation is organized as follows: Chapter 2 lays out the relevance of this study. Chapters 3 and 4 review the literature on inequality. The former focuses on global and regional inequality. The latter discusses the literature on the practice of child fosterage within the African extended family context. Chapter 5 reviews economic, sociological, and demographic theories of inequality. Chapter 6 provides the study methodology. Chapters 7 and 8 lay out the study findings. First, Chapter 7 discusses the trends and drivers of economic and health inequality. Chapter 8 presents results on the trends and effectiveness of the African extended family system in buffering inequality among children. Chapter 9 draws substantive and theoretical conclusions from the study findings

CHAPTER 2

STUDY RELEVANCE

2.1 Introduction

This study examines the levels and trends in economic and social inequality among children in sub Saharan Africa. Specifically, it documents the levels and trends in educational resources and health inequality among children. Second, it applies decomposition techniques to account for observed changes in inequality over time. Third, in the absence of effective formal social safety nets for children in sub Saharan Africa, the burden of child rearing largely falls on the extended family. To that end, this study provides insights on the macro level effectiveness of the African extended family in buffering inequality among children. But, why should anyone care about inequality in general and inequality among children in particular? First, this chapter defines the concept of inequality, and examines the theoretical and empirical reasons why it matters. Next, it provides the scientific relevance of the study of inequality in general, and inequality among children in particular. This is followed by a description of the current study's contribution to (i) the literature on inequality among children (ii) levels and determinants of inequality among children in sub Saharan Africa, and (iii) methodological approaches that improve our understanding of patterns and drivers of inequality.

2.2 What is inequality and Why Does it Matter?

Inequality refers to the *unequal* distribution of resources, services and positions between individuals or society (Grusky 2001; Kerbo 2000). Although economic inequality is the most studied, it is by no means the only, nor the most important form of inequality (Sen 2005; Kenny 2005). Like poverty, inequality is complex and

multidimensional. Other assets that are often unequally distributed within families, nations and across the globe include; physical, human capital, civic, honor, social, culture and power[1] (Grusky 2001). Inequality can either be *absolute* or *relative* inequality. Absolute inequality refers to the absolute gap between for instance the rich and the poor. On the other hand, relative inequality refers to a function of the ratios of individual incomes to the mean. An example helps to illuminate this distinction. Imagine a world with two individuals: one with $1, 000 and another with $5, 000. If we double the incomes of these two individuals, each will have $2, 000 and $10, 000 respectively. In this new scenario, the absolute gap (inequality) between the two individuals changes from $4, 000 to $8, 000 (a doubling). Yet, the relative gap remained the same: in both scenarios, the wealthier individual has 5 times more money than his/her poorer counterpart. Most people, however, think of inequality in absolute terms (Ravallion 2005). However, whether viewed in relative or in absolute terms, inequality still reflects a differential gap in the distribution of some kind of valued social, economic, or political resource in society.

While every society, past and present, distributes scarce goods and services unequally, what is distinctive about historical moments is not the presence of, but, *the extent of* inequality (Tumin 1963). Our values today are shaped by the post enlightenment view that all human beings are equal. In fact, contemporary democratic societies are founded on the principle that "men are free and equal in rights" (Grusky 2001; Kolm 1999). Therefore, the real and perceived magnitude of inequality informs debates on equity and social justice (Kolm 1999; Gilbert 2007). Additionally, inequality, especially income inequality, is invariably related to the most salient of societal problems as either cause or as effect.

[1] Physical assets refer to health while civic assets refer to dues process, right to work; honorific assets refer to occupational, religious, and merit based assets; social assets refer to informal networks, workplace associations and social clubs.

Unsurprisingly, research documents the relationship between inequality and macroeconomic phenomena such as poverty, economic growth, war, crime, and terrorism (Thorbecke. and Charumilind, 2002; Kanbur 2004; Ravallion 2005; Milanovic 2006) or the role of social structure in conditioning patterns of inequality in society (Sorensen 1996).[2] If the study of inequality is salient among adults, it is even more critical among children because it is a potent ingredient for social reproduction. In essence, disadvantages suffered during childhood, translates into material social outcomes during one's life course. In fact, the literature on educational assortative mating, differential fertility, and intergenerational transmission of social outcomes lays bare the long arm of childhood experiences. Specifically, this literature supports the idea that inequality dynamics within children's population provide a useful lens through which one can understand future patterns of inequality (Schwartz and Mare 2005; De la Croix and Doepke 2003; Mare and Maralani (2006).

2.3 Scientific relevance

The study makes a number of thematic, substantive, and methodological contributions to the literature on children's inequality in general, and the demography of African population more generally.

2.3.1 Areas of research

This study places inequality in the center of debates on the wellbeing of African children at a time when the greatest literature on sub Saharan Africa is generally preoccupied with studying poverty dynamics. Admittedly, poverty remains high, and is growing in sub Saharan Africa and the subcontinent remains the only regions whose food production levels cannot match demand of a growing population and remains among the regions that are off track in meeting most of the United

[2] Chapter 3 provides an extended discussion of the salience of inequality research.

Nations Millennium Development Goals on education, health, and gender equity outcomes compared to other world regions (Ahmed *et al* 2007; UN 2009). Yet, as daunting as the poverty challenge is, it is not the only problem that faces African nations. I argue that the distribution of social and economic resources within African countries is unequal in ways that are generally underappreciated. Indeed, a fuller account of the welfare of adults and children in Africa can only be reached when one grasps the scope and depth of not only poverty, but also inequality. This call is neither new nor surprising. In fact, Seers (1972) argued that if one is interested in assessing the welfare of a nation, they not only need to look at changes in poverty, but also cast a lens on inequality and unemployment.

Unknown to most people, African countries exhibit astonishingly high levels of income inequality compared to other countries and regions of the world. In fact, a larger number of countries in sub Saharan African exhibit income inequality levels that compare with, and even surpass those observed in other world regions such as Latin America, where inequality levels were historically high (for detailed accounts of inequality in Latin America, see for instance Wood and Lovell 1992; Fiszbein and Psacharopolous 1995; Hoffman and Canteno 2003; Lopez and Miller 2008). To illustrate this point, consider Figures 2.1 and 2.2.

Figure 2.1 reproduces results from Fiszbein and Psacharopolous (1995). This study documents the levels and trends in within country income inequality in seven Latin American countries; Argentina, Brazil, Colombia, Costa Rica, Panama, Uruguay, and Venezuela. Fiszbein and Psacharopolous (1995) apply the Gini coefficient as their metric for income inequality. The Gini coefficient is calibrated such that a score of zero represent total equality while a score of 1 represents a state of perfect inequality. The latter reflects a state where one person controls all resources in an economy. The study reveals three countries in which inequality levels increased

between 1979-81 and 1989 (Brazil, Argentina, and Panama). On the other hand, four countries reflect lower levels of income inequality in 1989 compared to those for the 1979-1981 period (Colombia, Venezuela, Uruguay, and Costa Rica). For instance between 1979 and 1981 Brazil's income Gini was 0.57 and it rose to 0.63 in 1989. Among the countries whose inequality levels declined, Colombia's Gini declined from 0.59 to 0.51. Overall, income inequality within all the countries in this study remains high (over 0.4) and is rising in some countries as noted above.

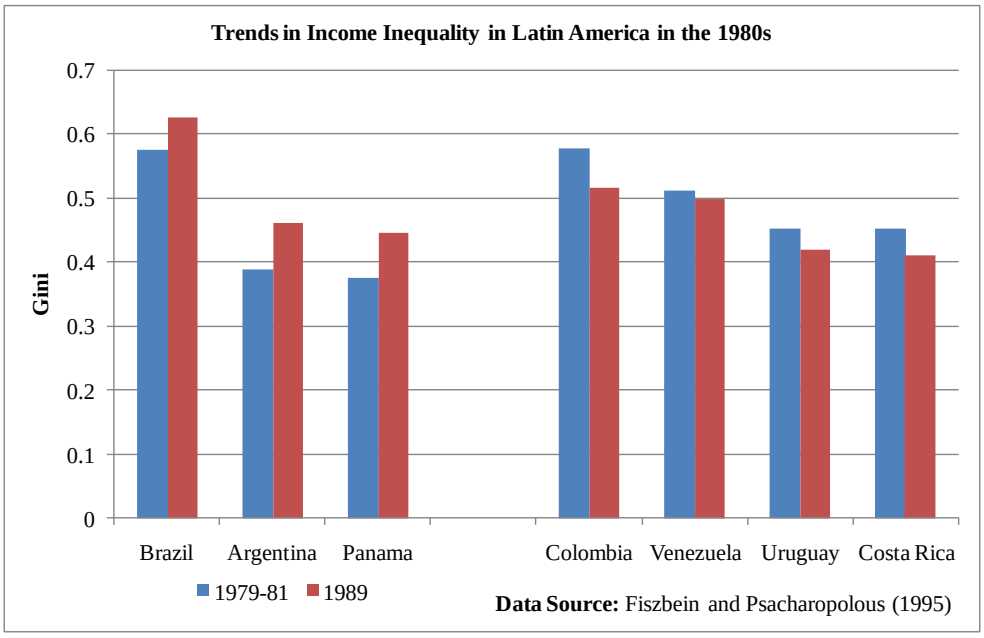


FIGURE 2.1. Comparative Trends in Income Inequality in Latin America

While historically, the inequality in the distribution of land and income resources is well acknowledged for Latin American for instance, it is much less so for sub Saharan Africa. Yet, the regions' inequality levels are comparatively high.

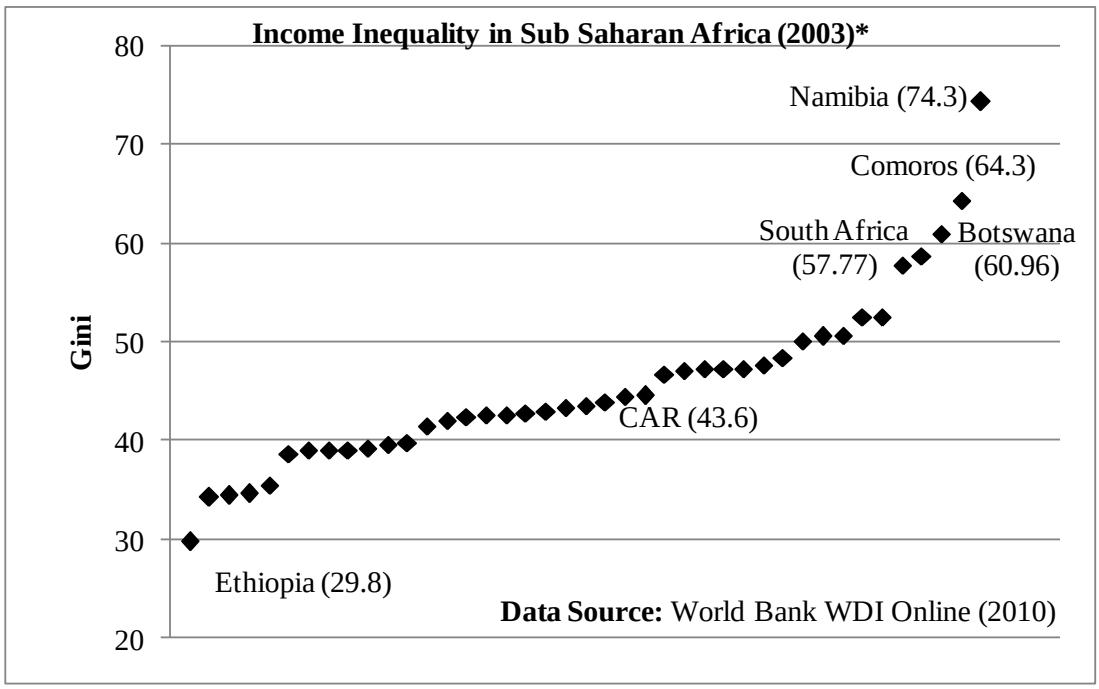
Figure 2.2 Panel A shows that for the 40 countries for which income inequality data is available for 2003[3], over three quarters had Gini coefficients above 0.4 and while more than a quarter had inequality levels above 0.5.

While the Gini Coefficient for South Africa is unsurprisingly high (0.58), few people realize that a number of other African countries exhibit equally higher levels of inequality levels; Liberia (0.52); Angola (0.59); Botswana (0.61); Comoros (0.64); and Namibia (0.74). Given that at global level the median Gini stands at 0.39 (PRB 2007), these data suggest that sub Saharan African countries exhibit extremely skewed internal patterns of income distribution. Trend data for income inequality is sub Saharan Africa is generally lacking. However, for the six countries (Lesotho, South Africa, Zambia, Cote d'Ivoire, Kenya, Namibia) for which data is available for three time periods between 1993 and 2003, no country experienced a decline in within country income inequality. Therefore not only are income inequality levels high, but, the either stagnated or increased over the years.

In short, this study submits that a more complete understanding of African societies requires not only a focus on poverty, but also, on the emerging trends in inequality.

[3] Data for this analysis was derived from the World Bank. 2003 was selected because it was the year in which most countries had Gini coefficient data. For some countries, the data reflects the most recent data point (generally between 2000 and 2006)

Panel A



Panel B

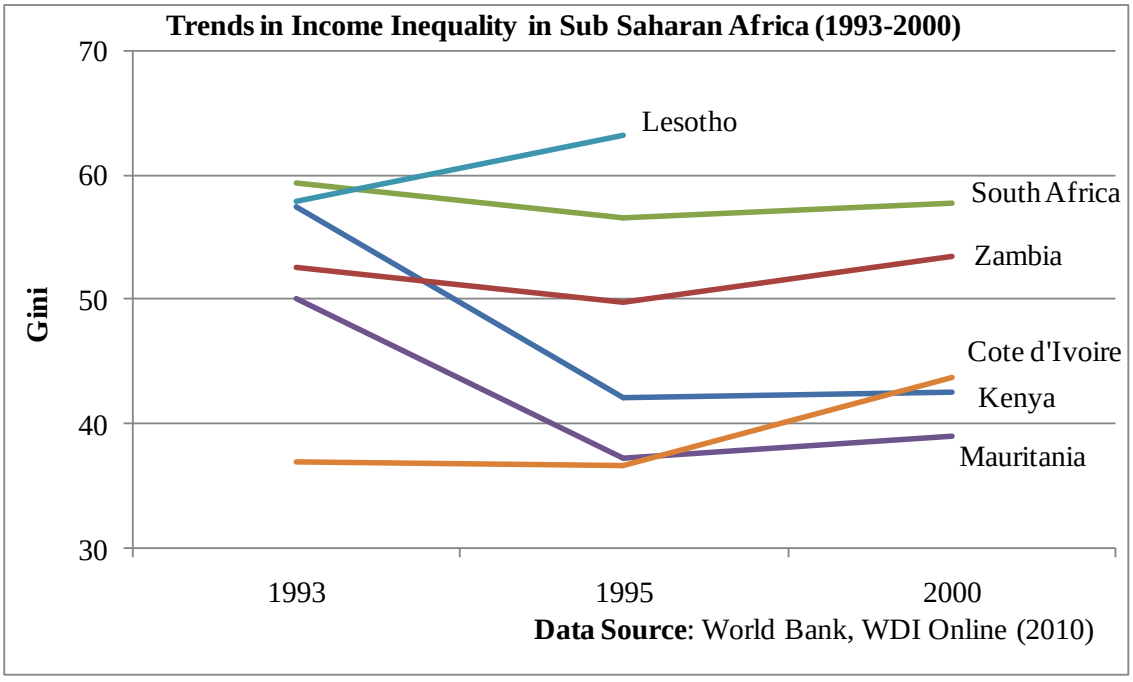


FIGURE 2.2. Trends in Income Inequality in sub Saharan Africa 1993-2003

2.3.2 Substantive Contributions

This study contributes to our understanding of children's wellbeing in sub Saharan Africa. First, it documents the levels in resource inequality among children (educational resources available per pupil) and estimates how these levels changed over time. Second, the study reveals the differences in inequality among children compared to the adult population in sub Saharan Africa. Third, decomposition results provide insights on factors that largely drive observed changes in inequality over time. Fourth, given that most people largely accept that income is a necessary but insufficient measure of human wellbeing (Sen 2005), the study also estimates inequality in the distribution of important child wellbeing indicators (health). Fifth, the study evaluates the effectiveness of the African extended family system-- within and across nations, and over time

2.3.3 Methodological Contributions

The study makes a number of key methodological contributions. Namely, it:

(i) Illustrates ways to estimate resource and health inequality among children across sub Saharan African countries. The approach makes it possible to isolate the influences of particular countries, as well as to compare between adult and children's trends.

(ii) Demonstrates innovative ways of applying decomposition techniques to understand the drivers of resource inequality among children.

(iii) Develops a concentration index that makes it possible to evaluate the macro level effectiveness of child fosterage patterns within the African extended family, and how these changed over time, and across gender.

(iv) Develops multivariate regression models that explain contextual differences in the levels and effectiveness of child fosterage in sub Saharan Africa.

2.3.4 Theoretical Contributions

The area of inequality among children in sub Saharan Africa, and inequality among children more generally is one that is not supported by axiomatic theoretical propositions. As such, this study uses its findings to posit theoretical ideas on the future of inequality among children in sub Saharan Africa. It theorizes the levels, trends, and drivers of inequality, as well as the potential effectiveness of existing institutional mechanisms such as the African extended family in buffering inequality among children. These theories provide a useful heuristic tool for future studies of inequality among children, especially in sub Saharan Africa.

2.4 Policy Relevance

Almost half of the African population comprises of children aged fifteen years or below. If their wellbeing is of concern to policy makers, then this study provides useful insights on the current state of distribution of educational resources and health among them. Additionally, the study provides insights on the determinants and drivers of inequality in ways that allow policy makers to understand key areas that either buffer or exacerbate inequality. Further, the study provides useful evidence that tests the idea that the African extended family system is an effective social safety net that buffers inequality among children.

2.5 Conclusion

This chapter discusses the relevance of this study and lays out its scientific and policy contributions. First it defines the concept of inequality and provides the reasons why it warrants academic and policy attention. It argues that inequality is a growing, and yet underappreciated phenomenon in sub Saharan Africa. Second it adds to the

empirical literature on inequality among children by documenting (1) the trends in inequality in educational resources and social outcomes among children in sub Saharan Africa and (2) accounts for the factors that either drive or buffer observed changes in inequality (3) the changing effectiveness of formal and informal social safety nets to buffer inequality among children. Together, these analyses bring the issues of distribution (of both resources and social outcomes) from the periphery to the center of debate on the state of children on the African continent. This is especially important because current global discourse on Africa primarily dwells on the quest to end poverty (Sachs 2005) and remains largely silent on issues of distribution (inequality). Understandably, the best intellectual and financial capital has been brought to bear on poverty issues because the dimensions of material deprivation in sub Saharan Africa is undeniable. Yet, a focus on poverty provides an important but painfully incomplete picture of the present and future status of African children and adult populations.

Besides, understanding patterns of inequality among children is intrinsically important because children may foretell future patterns of inequality. In other words, the momentum for inequality among tomorrow's adults is built in within the current cohorts of children. It appears that global and local actors currently deal with poverty and inequality issues in *sequential*, rather than in *concurrent* ways. This approach assumes that once the basic needs of those in the lower ranks of the economic ladder are met, then either inequality takes care of itself, or that strategies to mitigate divergent outcomes can then be invoked at a later stage. If the experiences of some countries in the Western world can provide useful guidance, it is one that shows that passively watching inequality grow is much easier than reversing the trend.

Overall, both these substantive and methodological contributions to the study of inequality in sub Saharan Africa are salient and timely because eliminating poverty

does not suggest an equalization of economic opportunity nor does it signal a convergence in social outcomes among children. It argues that serious efforts in pursuit social justice need to begin with a solid understanding of the nature of the momentum that drives future patterns of inequality among children and adults on the African continent.

CHAPTER 3

PREVIOUS STUDIES ON INEQUALITY

3.1 Introduction

This study primarily focuses on inequality among children in sub Saharan Africa. Yet, it benefits from a rich and diverse literature on global inequality, social stratification, as well as inequality among children within and across other world regions. As such, this chapter lays out the major theoretical ideas, and captures the key empirical findings on inequality in ways that help to locate the salience of research on inequality among children in sub Saharan Africa. The chapter is organized as follows. First, it defines the concept of global inequality and lays out the levels and trends in global income inequality. Second, it compares the global trends in income inequality to those observed in sub Saharan Africa. This is followed by a discussion of trends in global inequality among children. Next, the chapter synthesizes studies on poverty and inequality among children in Europe, Latin America, the United States and in sub Saharan Africa. The chapter ends by an expansive critique of the consequences of inequality.

3.2 Global Inequality

Different dimensions of inequality can be examined at the macro, meso, and micro levels. In other words, inequality can be examined at global, regional, national, community, or household level. Below I focus on global inequality. First, I define the term 'global inequality' before discussing the levels and trends in global income inequality.

3.2.1 Defining Global Inequality

Inequality refers to the unequal distribution of resources across individuals in society. Global inequality, on the other hand, refers to the unequal distribution of resources across the entire world's population. Global inequality is therefore a composite figure that sums inequality within, and between nations. Below, I use insights on income inequality to illustrate the scope and trends in global inequality. Recent evidence suggests that income inequality between nations constitutes a larger component of global income inequality (Firebaugh 1999; Goesling 2001).

Concerns about the impact of globalization spurred a rich literature among historians, economists, and sociologists that sought to test the divergence and convergence theories of income inequality. Studies generally sought to investigate (i) how much inequality exists? (ii) how much inequality changed over time (iii) what accounts for the observed trends in inequality, and (iv) the impact of divergence?[1] I examine these in turn.

3.2.2 Levels of Global Income Inequality

Historical studies provide a lens through which current levels of global inequality can be understood. During the nineteenth century through the first half of the twentieth century, the world income distribution became uneven. The West grew at unprecedented levels, Latin America, Europe and the former Soviet Union grew at the world average; Africa and Asia lagged behind (Maddison 1995; Pritchett 1997).[2]

[1] Related to this literature is a growing literature that questions the concern with global income inequality. Part of this literature suggests a focus on consumption (Edward 2006) and argues that inequality should be viewed in its multi dimensional form to include such social wellbeing factors as health and education (Sen 1997; Neumayer 2003; Kenny 2005; Goesling and Baker 2008; Decanco et al 2009; Eloundou- Enyegue and Rehman 2009).

[2] The trends somewhat reversed recently with income inequality decreasing between nations and increasing within nations (Firebaugh 2003).

But, how much global inequality exists now? Income inequality is usually measured through four standard metrics: the Mean Logarithmic Deviation (MLD), the Theil Index, the Gini Coefficient, or the squared coefficient of variation. These metrics (except for the squared coefficient of variation) are typically calibrated such that they range between zero (point of no inequality – everyone has the same income) to 1 (point of perfect inequality – a single individual controls all world resources). Firebaugh and Goesling (2004) estimate that in 1997 global inequality level stood at about 0.487 when measured by the Mean Logarithmic Deviation (MLD); 0.45 for Theil index and 0.479 for the Gini Coefficient. An earlier study (Sala-i-Martin 2002) derived estimates of 0.45 (MLD); 0.511 (Theil index) and 0.487 (Gini Coefficient). Should this level of global inequality be considered high, medium or low? I submit that the answer to this question largely depends on one's perspective. For instance, Milanovic (2006: 8) provides a summary of ten studies that estimated the level of global income inequality in the 1990s and figures generally ranged between a Gini value of 63 and 66. This level of global income inequality, he argues, is larger than that which is found in any single country, including South Africa and Brazil, two of the most unequal countries in the world whose Ginis are usually in the upper 50s or lower 60s.[3] Presently, the debate on the levels and trends in global income inequality has largely been resolved. What remains contested are the potential drivers of observed trends in global inequality (Firebaugh and Goesling 2004; Eloundou-Enyegue and Kandiwa forthcoming).

[3] On the same note, using the Luxembourg Income Study (LIS) data, Korzeniewicz and Moran (2005:290) estimate that between 1970 and 2000 the income inequality within the United Kingdom increased from about 0.25 to around 0.35 while that within the United States increased from between 0.3 and 0.4.

3.2.3 Trends in Global Income Inequality

Given the observed levels in global income inequality, the next question is whether these levels declined, increased, or remained constant over time?

With the exception of Maddison (2001), longitudinal data on trends largely remained scant up till the 1970s. An economic historian, Maddison estimated trends in global inequality going back to the pre-industrial period. He argues that all countries started out poor but some are now rich (Kenny 2005). If the historical data are to be believed, Maddison (2001) estimates that in 1000 AD both Western Europe and Africa had similar per capita income (around $450). However, between 1800 and about mid 1950s, Western countries changed from being about four times richer than poor countries to almost 30 to 50 times greater (Maddison 2001). In other words, this period marked a change in the composition of global income inequality. If within country inequality is eliminated (all incomes for individuals within countries are set at their national means), most of the global income inequality will remain because it is the difference between national means that is greatest. Overall, while the actual quantum of preindustrial and industrial global inequality may be debatable, it is generally agreed that the levels were low compared to those observed today.

The sheer gap in average incomes and annual growth rates between rich and poor nations revealed by historical data (Maddison 2001) led other scholars to raise alarm on "Divergence, Big Time" (Pritchett 1997). Additionally, the availability of datasets such as Maddison 2001, the World Income Inequality Database (WIID),[4] Penn World Tables, and the World Bank's World Development Indicators made it possible for scholars to carry out cross country comparisons in global income inequality. A growing number of studies that examined the levels and changes in global income inequality within the last two decades yielded inconclusive results.

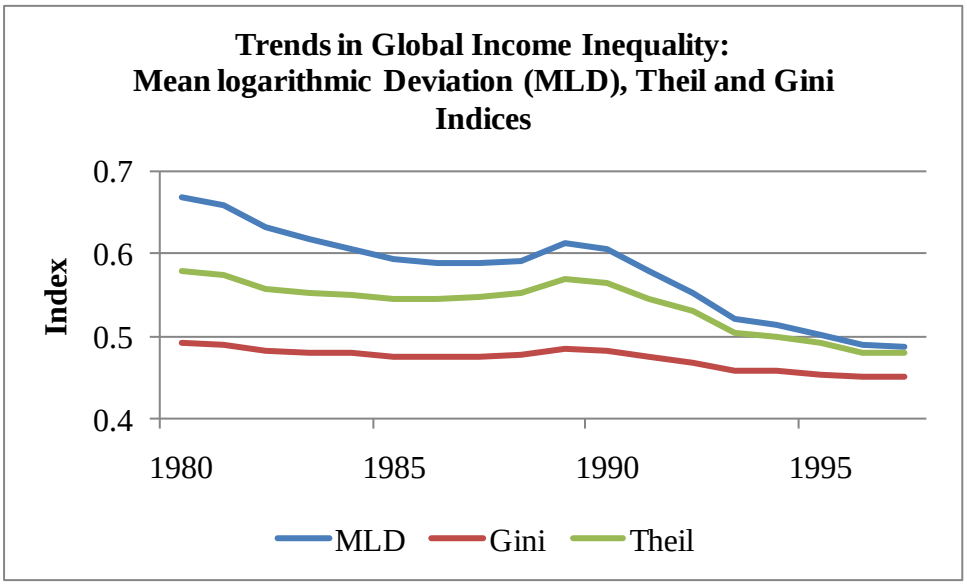
[4] See Mukhopadhaya 2004 for an expanded discussion of the WIID database

Some studies observed divergence (Korzeniewicz, and Moran 1997; Bourguignon and Morrison 2002; Milanovic 2002) or convergence (Berry et al 1983; Radetzki and Johnsson 2001; Sala-i-Martin 2002; Firebaugh 1999; Firebaugh and Goesling 2004). Still others observed divergence followed by convergence (Boltho and Tiono 1999) or failed to discern any trend in inequality (Schultz 1998; Melchior and Telle 2001).

Recent meta-analyses reveal that the root of these diverse outcomes lies in the methodological approaches taken (Firebaugh and Goesling 1999; Svedberg 2004). They concur that measurement of global income inequality requires (i) the use of income that is adjusted for purchasing power to allow for cross national comparisons (ii) that since global income inequality is concerned with the distribution of income across individual people (rather than countries); income data should be weighted by population size. In essence, studies that relied on income ratios (which do not weight for the shape of the distribution) (see for instance Pritchett 1997; UNDP 1999; World Bank 2000/1) and those that used foreign exchange based income data rather than purchasing power parity adjusted data (see for instance Korzeniewicz and Moran 1997) invariably observed divergence.

Below, I present the evidence on trends in global income inequality. Two key messages emerge. First, global income inequality gradually declined over time regardless of inequality metric applied. Second, observed declining trends are robust across studies. Firebaugh and Goesling (2004) estimate the trends in global income inequality across four inequality measures (Figure 3.1). Their study reveals that the MLD started off at 0.67 in 1980, declining to 0.59 in 1985 before it peaked slightly at 0.61 in 1989 before steadily declining to 0.49 in 1997. The Gini and Theil indices mirror the MLD trends. The former starts off at 0.49 in 1980 and it decline to 0.48 in 1985. Thereafter, the Gini slightly increases to 0.48 in 1989 before steadily falling to 0.45 in 1997. The Theil index stood at 0.58 in 1980 and slowly declines to 0.54 in

1985. Like the Gini and the MLD, the Theil index also takes a slight peak around 1989 to 0.57 before gradually declining to 0.48 by 1997. Evidently, the trends are robust across various measures. In essence, global income inequality has declined over time, regardless of the inequality metric applied.



Source: Data from Firebaugh and Goesling (2004)

FIGURE 3.1. Trends in Global Income Inequality

How robust are these results across different studies? Figure 3.2 reflects comparative trends in global income inequality as observed by Sala-i-Martin (2002) and Firebaugh and Goesling (2004). To compute trends in global income inequality, both of these studies draw on data from the Penn World Tables and both weight their data for population size as well as employ income data adjusted for purchasing power parity. However, Sala-i-Martin also uses Deininger and Square (1996) as well as other household survey data to construct time series data sets that make it possible to compute trends in within country inequality. The evidence shows a declining trend

regardless. For instance, Firebaugh and Goesling (2004) observe a steady (24%) decline of global income inequality from about 0.667 in 1980 to about 0.487 in 1997. Similarly, Sala-i-Martin (2002) observes between 5 and 13% decline in global income inequality depending on which index one focuses on. Both studies acknowledge the significant influence of China (in reducing inequality) and sub-Saharan Africa (in increasing inequality).

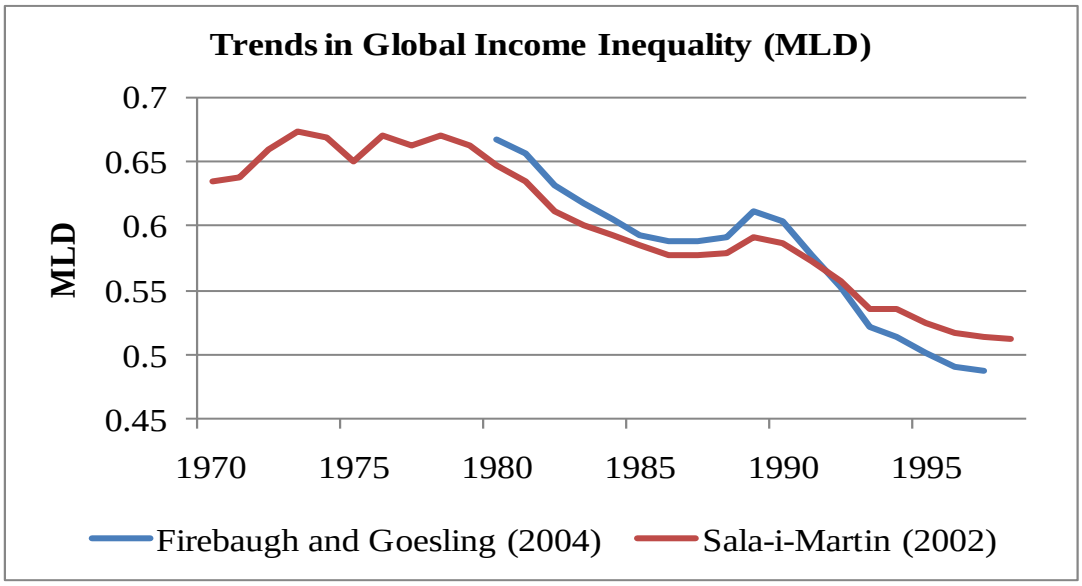


FIGURE 3.2. Comparative Trends in Global Income Inequality (1970-2008)

Once again, it is important to restate that the debate on the levels and trends in global income inequality has largely been resolved. However, what remains contested are the factors that drive these trends.

3.2.4 Drivers of Global Income Inequality

The above discussion synthesized how much global income inequality exists and how much the levels have changed over time. While the levels and trends in global income inequality are generally agreed upon, what remains fairly debatable is

the relative importance of factors that drive these trends. Few studies attempted to explain the drivers of observed global income inequality trends (Peacock *et al* 1988; Sala-i-Martin 2002; Bourguignon and Morrisson 2002; Firebaugh 1999; and Firebaugh and Goesling 2004). These studies, however, explain different aspects of the trends in global inequality. Some focus on the relative importance of within and between group contributions to global inequality (Peacock *et al* 1988); relative importance of within and between country inequality (Sala-i-Martin 2002); on relative importance of within and between group as well as the effect of population change and income growth (Bourguignon and Morrisson 2002); the relative importance of demographic and economic factors (Firebaugh 1999; and Firebaugh and Goesling 2004) or the relative importance of age structure rather than population size in driving trends in global income inequality (Eloundou-Enyegue and Kandiwa forthcoming).

Peacock *et al* (1988) draw on world systems theory to explore whether global trends are largely driven by within, or between zone inequality? They use purchasing power parity data from Heston and Summers for 1950-1980 for 53 countries to estimate and decompose the Theil index based on population and Real GDP per capita data. After dividing these countries into core, periphery, and semi-periphery countries, their evidence suggests that between zone inequality increased over the study period. They attribute this divergence to differential changes in population shares across zones as well as to India's slow growth. Because this study uses such a small sample size for the global population (they exclude former socialist countries and do not list names of countries in their sample), their findings should be taken with caution. Moreover, apart from noting the importance of demographic factors, they do not go far enough to discuss how they may affect trends in global inequality.

Bourguignon and Morrison (2002) decompose total inequality to reflect within group differences as well as capture the relative importance of population and income

dynamics. This is the only study that uses Maddison 1995 data to study trends and drivers of inequality from 1820 to 1992. They divide their time periods into four sub-periods (1820-1870); (1870-1910); (1910-1950); and 1950-1992. Further, they examine inequality between countries clustered in six subgroups; Africa; Asia; Japan, Korea and Taiwan; Latin America; Eastern Europe; and finally Europe and European Settlements. While noting that European countries became more similar within the first half of the 20th century (reducing global inequality), they also note that between countries inequality became the more potent component of global inequality. To the extent that findings are as good as the data from which they are derived, some aspects of this study require some level of faith due to how far back data is extrapolated. Moreover, with regards to population and income dynamics, it only reports changes in income and population growth compared to world average.

Sala-i-Martin (2002) uses data from the Penn World Tables from 1970-1998 for 125 countries representing 90% of the global population. The study estimates seven inequality indices for this time period and further decomposes the total global inequality into within and between country inequality. To derive within country income inequality, Sala-i-Martin relies on data from national surveys as well as data from Deininger and Squire (1996). Notwithstanding the limitations of within country income data[5], Sala-i-Martin's study adds to the literature which argues that between country inequality accounts for the larger share of global income inequality (about 70%) compared to within country inequality. Additionally, this study points to the exceptionalism of China's above average economic growth.

Like Bourguignon and Morrisson (2002) and Sala-i-Martin (2002), three other studies (Firebaugh 1999; Firebaugh and Goesling 2004; Edward 2006) highlight the

[5] Milanovic (2006) and Wade (2004) question the reliability of income distribution data for within countries. Its major limitation is that it most likely fails to capture the levels of income at the top of the distribution and is prone to measurement errors consistent with survey data.

exceptionalism of China with its huge population as well as the disequalizing effects of sub Saharan Africa. Additionally, these studies are the only ones that decompose the changes in global economic inequality (MLD) into its economic and demographic components. Their findings suggest that economic factors (mainly above average growth in China and below average growth in sub Saharan Africa) accounted for the greatest share of the change in global income inequality.[6] Still, scientists continue to debate the direction of the global inequality trend since it is driven by two opposing forces; changes within and between nations. Firebaugh (2003) believes that the decline in global income inequality is driven by greater declines in between country inequality compared to observed increases in within country inequality. Still, this perspective is contested (see Edward 2006).

In an attempt to account for the changes in trends of global income inequality, Firebaugh and Goesling (2004) apply standard decomposition techniques to apportion the change into two components: that which is driven by changes in population shares; and that which is driven by economic transformations. They conclude that income accounts for almost all (98%) of the change in global income inequality. However, a recent study (Eloundou-Enyegue and Kandiwa forthcoming) questions the basis and scope of the relative importance of demographic and economic factors.

Eloundou-Enyegue and Kandiwa argue that it is not population size that matters in driving changes in global income inequality. Rather, it is the population structure, i.e. age dependency that matters more than the relatively stable population shares. Second, this study also highlights that instead of focusing on income changes; standard development theory suggests that it is labor productivity that has material implications for driving changes in global income inequality. As such, moving away

[6] They also note that demographic factors such as differential age structures may have affected trends in global inequality in as much as it shapes working age dependency ratios.

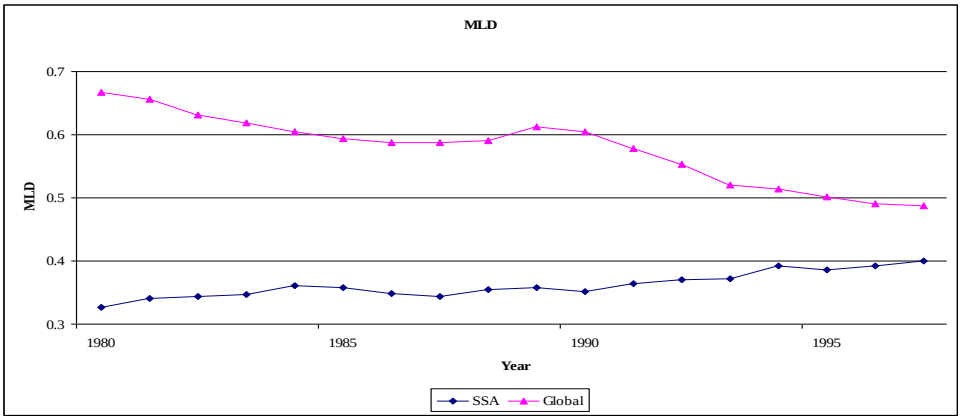
from the Population-Income (PI) decomposition, Eloundou-Enyegue and Kandiwa (forthcoming) propose a more nuanced decomposition technique that apportions changes in global inequality into their Population - Age structure - Labor Productivity (PAL) effects. The PAL decomposition makes it possible to capture the economic contributions of poorer nations who typically exhibit higher fertility levels. The expanded (PAL) decomposition shows that even if the "economic factor" remains the dominant driver, it is not as overpowering as in the simpler PI decomposition. For the entire study period (1980-2000), productivity accounts for 85% (as against 98.5%) of the total change. Indeed, there are periods when demographic variables account for a full quarter (1995-2000) or even a third (1985-90) of the total change. Just as important, of the two demographic variables, age structure (not population size) has the larger influence. At no point during the study period (except 1980-85 when the two influences were virtually identical) did the effects of population size exceed those of age structure. In addition, the effect of age structure was steadier, and worked to reduce global income inequality throughout the study period. In short, the practice of reducing population to its size ignores the more important component. By incorporating age structure in the analysis, one gains a fuller understanding of the total influences of population. One also develops a finer understanding of economic contributions. Instead of income per capita (a mere indicator of development), the analyses focus on productivity (a less proximate indicator of development).

The foregoing sections defined global inequality and described the levels, trends, and drivers of global income inequality. The question that arises is to what extent do these global trends mirror the reality in other world regions? In other words, given that global trends in inequality are declining, can the same be said of sub Saharan Africa?

3.3 Global versus Regional Trends in Income inequality

While global income inequality trends converged over time, the opposite is true for other world regions such as sub Saharan Africa. Figure 3.3 shows comparative ratios of global versus sub Saharan African trends. Global inequality as measured by the MLD was more than twice that in sub-Saharan Africa in 1980. However, the gap sharply dropped between 1980 and 1985. Between 1985 and 1995, global inequality was about 1.5 times higher than that observed in sub-Saharan Africa. However, the 1990 were a critical time for the convergence of global and sub-Saharan Africa regional income inequality as the global level dropped to almost equalize what was happening on the African subcontinent.

Panel A



Source: sub-Saharan Africa data is Kandiwa 2006. World data from Firebaugh and Goesling (2004).

FIGURE 3.3. Comparative Trends in Global versus sub Saharan African Trends in Between Country Income Inequality

It is also important to stress that the convergence of global and regional income inequality does not mean a reduction in the levels of inequality. On the contrary, income inequality in sub-Saharan African never showed signs of decline in the four decades starting 1960. Therefore, if global and sub Saharan African income inequality is converging, it is doing so at higher levels of all inequality measures.

The foregoing discussion focused on global and regional trends in inequality. But, they possibly mask emerging trends among particular population groups. In other words, to what extent do global trends in inequality reflect global trends in inequality among children?

3.4 Global Trends in Inequality Among Children

Most previous studies on inequality in the distribution of resource and wellbeing of children largely focus on intra country dynamics and to a lesser extent on regional and global inequality. This omission is surprising given the growing emphasis on globalization, a process that it implies not only increased global connectedness, but also, elevated levels of consciousness (Schafer 2005). Besides, global conventions such as the Convention on the Rights of Children and subsequent Millennium Development Goals symbolize the globalization of standards by which children's experience are to be measured (UNICEF 1989; United Nations 2000). Moreover, Eloundou-Enyegue and Rehman (2009) submit that it is imperative to trace the changing patterns of distribution in resources (access to opportunity) as well as in the wellbeing (outcomes) for children at a global scale. They posit the intrinsic and extrinsic value of studies on global inequality among children. First, it may be important to constantly assess if the ongoing cultural convergence is mirrored by similar convergence in economic and other resources available to children? Second, the authors suggest other extrinsic reasons why global inequality among children might be important. On the one hand, it is unclear whether the declining global trends in income inequality suggest similar outcomes for children? Moreover inequality among children is a potent harbinger of trends in future inequality

Yet, to date few studies examined inequality among children at global level and they do so by focusing on different aspects of inequality while applying different

metrics in examining these issues. Studies range from those that explore trends in mortality differentials (Minujin and Delamonica (2003), examine the link between income inequality and health outcomes (Beckfield 2004; Ruger and Kim 2006), discuss the contradiction between globalization, cultural convergence and children's wellbeing (Schafer 2005), investigate trends in multidimensional inequality (Decanco *et al* 2009), or track historical changes in global resource and health inequality among children (Eloundou-Enyegue and Rehman 2009); Below, I provide a synopsis of these studies, their theoretical and methodological approaches, as well as their substantive findings.

Minujin and Delamonica (2003) evaluate the extent of differentials in under five mortality and how those gaps have changed over time. They employ World Bank cross sectional data for 43 countries to highlight the gaps in child mortality across wealth quintiles. Further, they use DHS data for 23 countries for which they could find two waves of surveys, including 14 from sub Saharan Africa (Burkina Faso, Cameroon, Egypt, Ghana, Kenya, Mali, Morocco, Niger, Senegal, Tanzania, Togo, Uganda, Zambia and Zimbabwe); seven from Latin America (Bolivia, Brazil, Northeast Brazil, Colombia, Dominican Republic, Guatemala, and Peru); and lastly others from Asia (Bangladesh, Indonesia, Kazakhstan and Philippines). They note that averages, as well as changes in averages over time, hide the dynamics of what is driving the changes. Observed gains in infant mortality could be driven by gains among the wealthier groups more than it could be from the lower quintiles. In fact, they find evidence that the relative gap (ration between the under 5 mortality rate between the top and bottom quintiles) are huge, and significant. On average, children from the lowest quintile have twice the likelihood of dying before their fifth birthday than those from the upper quintile. Because the lower quintile contains more children, these ratios imply that for every seven children that die among the lower quintile, only

two die from the top tier. They interpret these results as a clear 'measure of discrimination in the most basic right, the right to survive'. Interestingly, part of their analysis shows that the relative gaps in under five mortality are highest within countries that have lowest mortality rates (those with mortality rates of between 50 and 150 per thousand live births) compared to those for countries with mortality rates higher than 150 per thousand live births. Out of the 24 countries for which they have two waves of DHS data, their analysis shows that the gains in mortality were accompanied with reductions in the relative gaps across wealth profiles. For instance, if one takes the countries for which gains in under five mortality are positive, only Guatemala has experienced a narrowing in the relative gap; while five countries (Egypt, Mali, Morocco, Peru, and Senegal) maintained the same relative gap over time; and seven countries experienced worsening outcomes in terms of relative gap even as mortality came down (Bangladesh, Bolivia, Colombia, Dominican Republic, Ghana, Indonesia, and Uganda).

Second, for the countries that did not experience any mortality gains, only Togo and Zambia observed a narrowing gap between mortality across wealth profiles while four countries (Brazil, Burkina Faso, Cameroon and Niger) remained constant; and finally Philippines and Tanzania experienced a widening of gap in the face of static mortality changes. On the other extreme are countries that experienced negative gains in under five mortality. Of these, Kenya maintained its relative gap while Kazakhstan and Zimbabwe had worsening outcomes. In short, out of the 24 countries, regardless of the level of absolute gains in mortality, most countries experienced constant relative gaps (10 countries) or worsening outcomes (11 countries). Minujin and Delamonica (2003) then propose an egalitarian scenario where policy makers use benchmark improvement rate among the top quintiles to target policies across the board in ways that benefits everyone. This study is helpful in demonstrating the

worsening gaps in wellbeing outcomes across wealth profiles. However, the authors correctly highlight that their study focuses on differentials. Therefore, this study suffers from the same limitations that befall relative gap derivations because they do not take account of relative size of groups.

Beckfield (2004) explores the relationship between income inequality and health outcomes. He estimates ordinary least squares and fixed effects models to evaluate if income inequality significantly explains inferior health outcomes (life expectancy at birth, and under five mortality). Beckfield criticizes previous studies for using limited samples, failure to control for unobserved within group heterogeneity, and for using suspect income inequality data. Drawing on a multitude of data sources (including the United Nations, World Health Organization, The Republic of China, U.S. Census Bureau, the World Bank, Deininger and Squire Inequality Data, and the Penn World Tables) he estimates fixed effects models to explain infant mortality rate. After controlling for several covariates, he fails to find a significant link between income inequality (as measured by the Gini coefficient) and income share controlled by the poorest quintile. This result is robust even when he limits his sample to wealthier countries. While accepting the intuitive appeal of the conventional inequality-health relationship, Beckfield attributes his results to his use of superior methodological approaches, as well as use of appropriate data. Even if he fails to find a significant association between income inequality and health, he argues that it could be due to several factors. First, inequality, and not income inequality could be what harms health. As such, he hypothesizes that several sources could account for the divergent outcomes including; globalization and neoliberal policies, class relations, health related welfare state policies, labor processes, racial health inequities, gendered health behaviors, and environmental changes. Overall, this article enriches the debate on whether inequality is bad for health convergence?

In a related study, (Ruger and Kim, 2006) explored global health inequalities among adults as well as among children. They sought to find what social and economic variables explained disparities in infant mortality across wealth profiles? Using the World Bank's World Development Indicators, they use cluster analysis to classify 207 countries into three 'mortality groups'; better off, worse off, and mid level. In doing so, this approach helps minimizes differences within groups and maximize variability between groups. They estimate multinomial logistic regressions explaining under child mortality, (as well as adult mortality) with the groups as the dependent variables. Their covariates include indicators for income (GNI per capita adjusted for purchasing power parity), education (adult illiteracy rates for women and men), health (health expenditure per capita and public health expenditure), environment (water source and sanitation), and health condition (TB Incidence and HIV Prevalence). Not surprisingly, they find evidence that health expenditure and HIV/AIDS prevalence explained the differentials in health outcomes between worse off and better off groups. The article succeeded in reinforcing the link between health expenditures and health outcomes and highlighted the growing disparities in health outcomes between better off and worse off countries. But, the analysis speaks more to differentials than they do for inequality per se because they do not weight for group composition.

Schafer (2005) highlights the growing trend towards global cultural homogenization or Westernization. His analysis of United Nations data shows huge differentials in survival (under five mortality and life expectancy) across space. In particular, he illustrates the poor performance of sub Saharan Africa compared to other regions. Also, he argues that rapid urbanization exacerbates poverty and inequality. But, he provides scant evidence to show the link between urbanization and poverty

and inequality.[7] Overall, this study sheds light on the contradictions of globalization where cultural convergence is matched with wellbeing divergence. Yet, by using differentials, the study fails to account for the global distribution of the burden of child rearing. Rather, differentials tend to focus on the extreme ends of the distribution ignoring the size of the entire distribution in ways that provide only a partial glimpse on the dynamics of inequality.

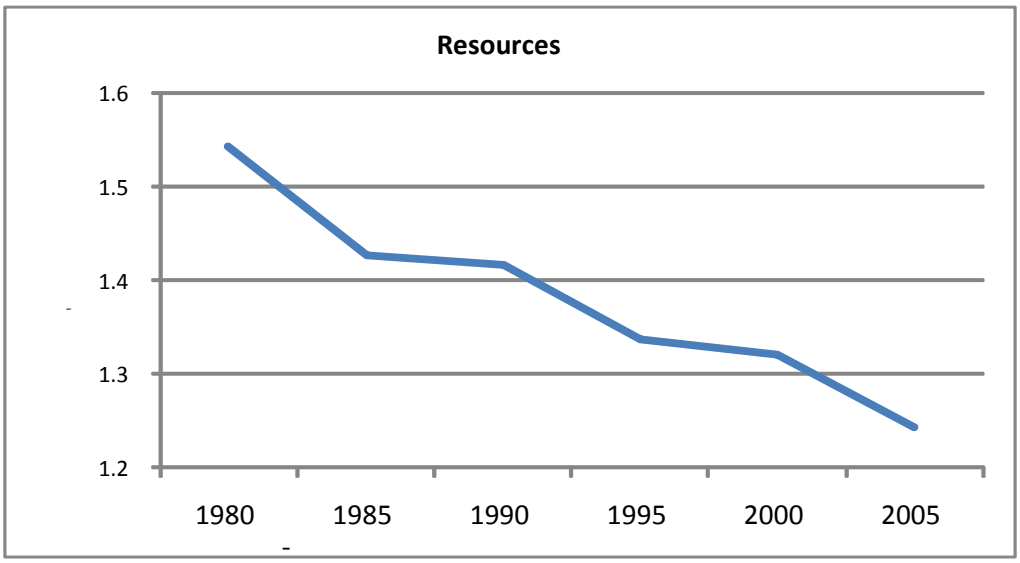
Further, a recent study (Decanco *et al* 2009) explores the salience of using multidimensional measures of inequality. They draw on World Bank data (from 1975 to 2000) for 97 countries including about 28 African countries for variables such as gross secondary school enrollment, life expectancy, and GDP per capita to derive normative inequality indices (Atkinson Index) and they find modest declines in wellbeing inequality. While they present a novel methodological approach, I question the choice of their indicator variables (especially gross secondary school enrollment ratio) because it says nothing about actual educational attainment. Nevertheless, this study highlights the usual problems of trying to conduct studies on global inequality, especially for trend analysis because the data are simply not there and the omitted countries are not random, introducing some serious bias in the results (for some innovative ways of aggregating data from surveys from different countries see Breen *et al* (2009).

Last, Eloundou-Enyegue and Rehman (2009) explore trends in global inequality among children and how these changed over time. They present a conceptual model and empirically estimate the trends in global inequality among children. Using World Bank data, they estimate trends in global inequality in opportunity (resources available to children) as well as trends in social outcomes

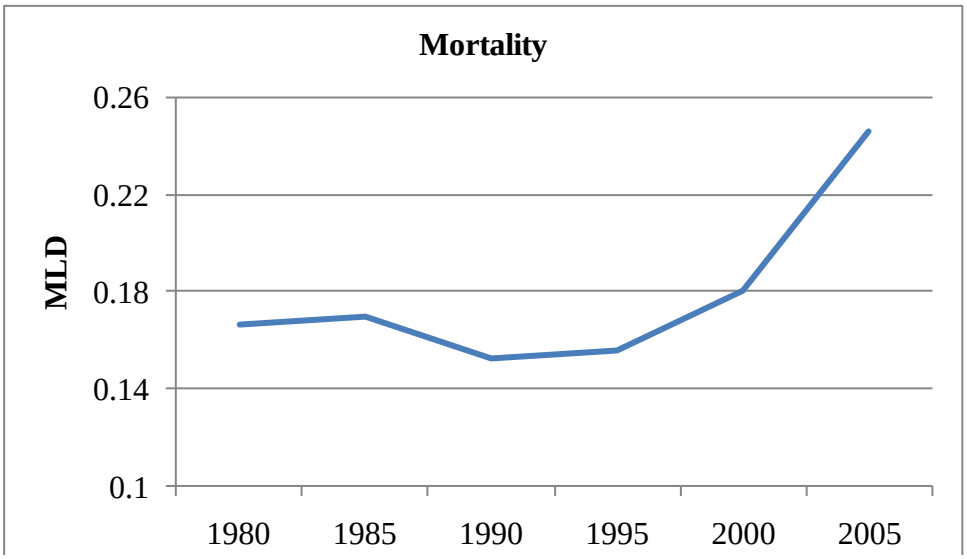
[7] In that regard, Schafer (2005) cites only the UN report on Water and Sanitation in the World Cities which estimated that up to 2.2 million people die of water and sanitation related diseases each year.

(health). First, they estimate a Lorenz curve that illustrates the uneven contours of the global burden of child rearing where the locus of resources fails to coincide with the greatest burden of needy children. Second, using three measures of inequality (the Mean Logarithmic Deviation, the Squared Coefficient of Variation, and the Theil index) the study reveals that resource inequality among children declined over time, similar to global income inequality trends (see Figure 3.4). However, even though the trends is downward, the absolute values for children are higher that overall global trends. For instance, between 1980 and 2005, global inequality among children (MLD) declined by 24% from 1.54 to 1.24 compared to global income inequality that declined by 27% from 1.34 to 0.98. In addition, they reveal that while levels of resource inequality declined, the opposite is true to social inequality (health) among children (Figure 3.4, lower panel).

Eloundou-Enyegue and Rehman's decomposition analysis further showed that the two regions of sub Saharan Africa and Asia accounted for most of the observed changes in inequality. Within sub Saharan Africa, demographic factors such as population size and age dependency contributed to divergence in global trends in inequality. On the other hand faster than average economic growth in Asia fostered convergence of observed global trends. Last and most notably, while the trends in resources signal a somewhat positive picture, the opposite obtains with regards inequality in wellbeing



Source: Eloundou-Enyegue and Rehman (2009).



Source: Eloundou-Enyegue and Rehman (2009).

FIGURE 3.4. Trends in Global Inequality Among Children: Resources versus Social Outcomes.

indicators among children. Regardless of inequality measure, this study finds a steady growth in global inequality in health outcomes for children. For instance, the MLD values for infant mortality rate rose by about 53% from 0.20 in 1980 to 0.30 in 2005. This trend is consistent across alternative measures of inequality, and over time (the Theil index rises by 44 from 0.18 to 0.26 while the CV rises by 29% from 0.55 to 0.71). In other words, this study illustrates how global measures of inequality may mask disparities in inequality trends within particular subgroups, in this case children.

Overall, fewer previous studies examined inequality among children compared to those that address overall trends in global inequality. While they provide useful insights, studies that fail to focus on children as a distinctive population subgroup provide a partial picture on the dynamics of inequality trends. As the Eloundou-Enyegue and Rehman (2009) illustrates, sometimes inequality trends among children mirror those of adults (for instance in resources), but, they may also go in the opposite direction for other social outcomes (in their case health). It is therefore imperative for research to focus on children as a distinctive demographic group whose experiences often differ from those of the larger population.

3.5 Levels and Trends in Inequality within World Regions

Even though fewer studies examine the nature and changes in global inequality among children, a rich body of literature does so at a smaller scope – either regional, or within country inequality. Below, I describe some of the key theoretical and empirical perspectives in inequality among children in Europe, in the United States, as well as in sub-Saharan Africa.

3.5.1 Inequality Within the Europe, Latin America, the United States, and sub Saharan Africa

Notable studies on inequality among child cohorts in Europe include those that explore the relationship between social class and educational attainment. For instance, a meta analysis by Shavit and Blossfeld (1993) suggests divergence in social outcomes among children over time. However, more recent evidence suggests that in fact social and economic opportunities among children in Europe converged over time (Breen *et al* 2009).

In a recent study (Sahn and Younger 2005) uses Demographic and Health Survey (DHS) data (22 surveys in total) from seven Latin American countries to examine levels and changes in health inequality among children. Specifically, they derive Gini coefficients for standardized heights of 24 months old children. They find significant declines in inequality in health inequalities in Bolivia, Brazil, Colombia, Dominican Republic, Guatemala, and Peru and increases in Nicaragua. However, their methodology involves within country changes in inequality. In other words, they did not pool the data for all the children to evaluate how the heights of each child in Latin America compared to the regional mean—which is the value of between country evaluations. Some studies focus on inequality among children within individual countries in Latin America. For instance, Wood and Lovell (1992) document the continuing significance of race in explaining inequality in child mortality in Brazil.

Inequality among American children escaped scholarly debate until about 15 years ago (Lichter and Eggebeen 1993). Before then, most scholars were concerned with understanding the levels and determinants of poverty at the bottom of the distribution. While helpful, these studies focused on a particular section of the children's population and failed to capture the changes across the entire distribution, and over time.

Lichter and Eggebeen (1993) examine the levels and trends in income inequality among children. Further, they explore the role of family structure in influencing the observed changes in inequality. Methodologically, they use the Public Use Microdata Samples of US population (1960, 1970 and 1980), to divide children into five income categories and derive income to poverty ratios, indices of dissimilarity, as well as coefficient of variation measures. They find a growing level of inequality among children and worsening outcomes for African American children. They attribute the latter to changes in family structure where a growing number of African American children were growing up in poor, single parent households. Additionally, they partially attribute the growth in income inequality to labor force participation of women in dual earner couples. Given that economic wellbeing is often judged relative to consumption standards of society more generally (Jencks 1987), Lichter and Eggebeen (1993) conclude that the world of American children is becoming more and more bifurcated. On the one hand lies the affluent children who partake of the material culture of the middle and upper class, and on the other extreme poor children remain isolated from this mainstream lifestyle. They find this scenario very grim. This study is extremely important in setting the groundwork for the analysis of inequality among children in America. However, it was based on data for three decades up to 1980. It would be helpful to replicate this study with more recent data, and examine trends in inequality across a variety of inequality measures to check if the results are sensitive to the type of measure derived. This call for more research in this area is particularly pertinent given the recent changes in economic booms and busts in the United States, and well as the continuing changes in family structure as more children are growing up among single or cohabiting couples (Oppenheimer 1988; Ellwood and Jencks 2004).

Lichter (1997) synthesizes key theoretical arguments and empirical findings on children's poverty and inequality in America and compares these to other Western countries. He notes that changes in the institutions of schools, families and governments shaped the etiology of poverty in America. In fact, in spite of the weaknesses of income poverty, levels and trends in child poverty in America are much higher (20.3%) than those in other countries such as Germany (4.9%), Sweden (3.5%) and 4% for the Netherlands (Coder *et al* 2001). While it is tempting to blame the American child poverty rates to single family households, he points to evidence that shows that poverty rates among children in female headed household in America are about 3 times those in France and the United Kingdom and almost 6 times those in the Netherlands.

Further, Lichter (1997) notes that children are the poorest of all demographic groups in America, almost double the elderly rates. On inequality, Lichter (1997) singles out changes in family structure, employment patterns, as well as public assistance as the main drivers of changes in inequality among children. Among other things, he emphasizes the growth in trends of the working poor where low income wage earners earn marginally more than welfare recipients at a time when the value of welfare checks has declined precipitously. Moreover, Lichter (1997) highlights that the extent to which the state enacts legislation that benefits poor children and all children more generally depends on whether society feels that children are a public good?

Two other studies (Ozawa and Lum 1996; Ozawa and Kim 2000) address inequality among children from a social policy perspective. These two studies disaggregate trends and dynamic responses of inequality within three groups; children, the elderly, and adults. The major innovation in their methodological approach is that they do not infer inequality among children from those of adults. Rather, they study

levels and trends of inequality among children as a distinct population. Ozawa and Lum (1996) evaluate the effects of alternative social transfer programs on income inequality among children. Drawing from the Survey of Income and Program Participation, they focus on three distinct groups, children, elderly, and adults. Their analysis shows a very high inequality level among children (Gini =.581) which reduce to .198 after social transfers. They conclude that welfare payments are more effective than social insurance benefits in reducing the Gini coefficient for children.

In a subsequent study, Ozawa and Kim (2000) evaluates the changes in income inequality among children from 1969 to 1979, 1979 to 1989 and finally between 1969 and 1989. They use data from the Current Population Survey to estimate inequality among three subgroups; children, adults and the elderly (disaggregated by race). They estimate Gini coefficients before and after social transfers and determine the ameliorative effectiveness of social transfer payments. Their findings suggest that children lost ground in the three decades between 1969 and 1989. For instance, after accounting for social insurance benefits and welfare payments, the Gini coefficient for children increased 11% between 1969 and 1979, followed by a 10.2% increase between 1979 and 1989. Within the two decades between 1969 and 1989, income inequality among children increased by 22.4%. They also find a gradient among racial groups with income inequality among Hispanic children increasing at a faster rate than among any other racial group between 1979 and 1989.

More recently, Mayer (2001) argues that at national level, economic inequality may affect educational attainment through several channels (1) incentives provided by higher education (2) declining utility of family income (3) subjective feelings of relative deprivation or gratification (4) changes in political processes that shape educational opportunities and (5) changes in economic segregation. While Mayer's work demonstrated that economic inequality in the United States accounted for higher

educational attainment over time, it also showed that the positive shift was driven by gains among children of the rich while the poor lost ground. In short, Mayer's theoretical framework lays a solid background for theory building with regards causes and consequences of global inequality among children.

Literature on inequality, especially inequality among children within sub Saharan Africa is scant. The exception is a recent study by Moradi and Batten (2005). This study explains the levels and determinants of health inequality (height) among five cohorts of adults in 28 countries starting the 1950s to the 1980s. Specifically, they estimate Gini coefficients and derive coefficient of variation in heights among the study subjects. They find that regions with monoculture tend to increase inequality while those with diversified agricultural systems reduced overall inequality.

In spite of the paucity of studies on inequality among children in sub Saharan Africa, the current study benefits from a rich literature that emerged in the United States in the last two decades. Overall, the literature on economic inequality among children in the United States is expansive and much less so for other world regions such as Europe, Asia, or Latin America. Most studies focus on inequality patterns along class, racial, and gender categories. The United States literature is helpful in two important ways. First, it advanced methodological and theoretical approaches to the study of inequality among children. Second, it makes it clear that children are an important and distinctive sub group within society. As such, poverty and inequality dynamics among children should not be inferred from adult trends. Indeed, Eloundou-Enyegue and Rehman (2009) also reinforces the salience of focusing on children as a distinctive demographic group.

3.6 Why Study Inequality

Why is it important to track levels and trends in inequality within society? Many studies that examine inequality seldom state why society should care about inequality (Kaplow 2005). Below, I provide some of the theoretical and empirical arguments that suggest that inequality should not be a concern, as well as counter arguments that submit that inequality is a key social problem that needs to be understood and addressed.

3.6.1 Why Inequality Should Not Matter

First, the perspective that views inequality as unimportant point to four key ideas namely (i) inequality serves a functional purpose in society (ii) poverty is a much greater evil than inequality (iii) a tradeoff exists between poverty and inequality, and finally (iv) inequality is an inevitable outcome of long term economic growth trends. Krueger (2007) argues that inequality serves a functional purpose in society in ways that efficiently channel scarce resources to the most deserving in society. The logic is that inequality itself is not bad as long as society is getting richer, a safety net exists for the poor, and there is an opportunity to climb up the ladder (The Economist, 2006). Perhaps also, inequality could become bad when you have too much of it. Second, Krueger (2002) suggests that poverty is perhaps a greater evil that warrants research attention more than inequality does. Indeed, Ravallion (2005) uses data for 70 transition countries, to argue that a trade off exists between poverty and inequality. The study finds no evidence between absolute poverty and relative inequality but finds significant evidence of a tradeoff between absolute poverty and relative inequality. In other words, individuals who want smaller absolute income gaps between the rich and the poor should be content with more poverty and vice versa. In a seminal study Kuznets (1955) presented the idea that growth in income inequality is to be expected

when countries grow their economies. Coining the theory of inverted U-curve, Kuznets' theory suggests that income inequality is expected to grow in a country's early stages of growth, peaking at some level, and then falling thereafter[8]. Since inequality is an inevitable outcome of economic growth and improvements in human wellbeing, people need not worry about inequality as they should about poverty and static economies. While earlier empirical work somewhat supported Kuznets's thesis (Houthaker 1961; Kelly and Williamson 1968) a growing body of recent studies dispute the conventional wisdom on the relationship between growth and inequality. For instance, using both panel and cross sectional data, Schmidt-Hebbel and Serven (2000) find inconclusive evidence on the relationship between growth and inequality. Moreover, other studies have found a negative association between inequality and growth (Barro 1999) or that in fact initial inequality is negatively correlated with long run growth. Further, Bruno *et al* (1998) using longitudinal on India analyzed the relationship between growth and inequality and found that growth was not inequality enhancing. Overall, the Kuznet's inverted U theory has not found empirical support. Nevertheless, it is valued for bringing inequality scholarship into the center of social science research. In fact, because evidence to support the Kuznets thesis has proven not to be robust to econometric specifications, sample composition, and period of observation, some argue that it is better to just focus on policies that foster growth and positive distributional outcomes than rely on aggregative reduced form relationships between per capita income and inequality (Kanbur 2000).

[8] In his Presidential Address, Kuznet's made a plea to the members of the American Economic Association which inspired a long research tradition on inequality.

3.6.2 Why Inequality Matters

A growing number of scholars, policy makers, and civic society submit that inequality is arguably one of the greatest social problems of our time and therefore needs timely and sustained attention. What is distinctive about the current historical moment is that inequality research gathered pace across disciplines such as religion, ethics, law, economics, sociology, demography, geography and psychology.

Why do people care about inequality within and across societies? After all, inequality is ubiquitous in both poor and rich nations (Gilbert 2007) and has shaped human experience across generations. Proponents of inequality draw their inspiration from (i) perceptions of fairness and social justice (ii) inequality's relationship to other social outcomes such as political stability, crime, health, education, and happiness (iii) the growing scope and self reinforcing nature of inequality.

Let us assume for a moment that a socially just society is a goal as well as an end in itself within and across context. What would that goal or society look like? Rawls (1971) provides us with a simple yardstick against which each society can measure itself. The simple Rawls test asks: "would the best off accept the current arrangements if they believed for a moment they might find themselves in the place of the worst off?" If a society answers this question in the affirmative, then it may consider itself just. Sadly, I cannot think of any society today where this response can be honestly asserted because of the wide differentials in life chances between those who have and those who have little.

As such, people use inequalities to judge the quality of society in which they live (Kolm 1999). Indeed, some people die in revolutions fighting existing inequalities. He notes that inequality invokes notions of:

> " …social ethics through distributive justice, judgments about social structures and social sentiments, to the sociology of classes,

> hierarchies, concentration, differentiation, spreading, stratification, isolation, polarization, and to psychology as regards the sense of justice, norms, envy, jealousy, sentiments of inferiority and of superiority.."

In other words, perceptions of inequality are integral to the understanding of the very essence of human welfare because in most circumstances, relative distribution matters equally or even more than absolute distribution. Most people may not care about inequality, especially economic inequality in society. However, they begin to be concerned if inequality (in whatever form) is perceived to be an outcome of inequitable distribution of *opportunity* in society. Indeed, Seers (1972) submits that equality should be an objective goal on its own because the social barriers and inhibitions of an unequal society distort the personalities of both those who have more and those who have little. To Seers, trivial differences such as accent, language, dress, customs breed contempt and social disharmony.

Within the sociological tradition inequality has always been a major motivation factor that drives theory and empirical studies on fairness and social justice. Notably, the core work of classical sociologists such as Karl Marx, Emile Durkheim, and Max Weber was anchored in understanding the nature and changes in societal stratification. In the opening statement of 'The Communist Manifesto", Karl Marx (1848), notes that:

> "The history of all hitherto existing society is the history of <u>class struggles</u>."

Indeed, Marx's theory of historical materialism suggests that the poverty dynamics of 19th century Europe were best understood within the context of emerging economic and power relations associated with industrialization. Weber, on the other hand proposed theories on the nature of social classes, social status and the processes that

shape these categories. His multidimensional views on inequality laid the platform for subsequent stratification literature that investigates disparities in life chances (Dahrendorf 1979). In the Division of Labor, Durkheim (1984) advances the concept of mechanical solidarity that stems from shared norms and values among social groupings. This proposition implicitly acknowledges the existence of distinct social classes. Among these theorists, it is Karl Marx who was explicit in linking poor social outcomes (poverty and inequality) to unfair patterns of unequal social relations in society.

Second, inequality is important especially when one examines its relationship to other social outcomes such as political stability and crime (see Thorbecke and Charumilind 2002; Dallmayr 2002; Wade 2004; Milanovic 2006; Gilbert 2007). Thorbecke and Charumilind (2002) propose a framework that captures the relationship between political instability and inequality. They argue that high income inequality may lead to social tensions and political instability, leading to uncertainty, lower investment and ultimately lower economic growth. In other words, inequality undermines social cohesion and the democratic process as those with economic power are likely to wield political influence as well.[9] Indeed, some recent studies found a negative association between inequality and political stability (Alesina and Rodrick 1994 & 1996) while others have found a positive association between inequality and violent crime as well as a positive association between poverty and property crime (Kelly 2000).

Many economics scholars question the narrow focus on income or wealth inequality in favor of broader assessments of the 'things' that matter for overall human wellbeing (see especially Sen 1982, 1985, 1997, 1999; Neumayer 2003; Kenny 2005).

[9] In his book 'Power and Powerlessness' Gaventa (1982) outlines the relationship between economic power and political participation. He argues that the rich are more likely to set the agenda, advocate policies that work to their advantage (e.g., taxation) and ultimately shape the aspirations of the poor.

Indeed, a recent study (Graham and Felton 2006) provides fresh perspectives on the relationship between inequality and happiness. They argue that classical economics' focus on Pareto Optimality fails to shed adequate light on the relationship between inequality and individual welfare because it is preoccupied with maintaining the status core (not making one better off by making another worse off).[10] Using survey data from 18 countries in Latin America, they find evidence of a negative effect of inequality on happiness in Latin America where it is considered a sign of persistent unfairness. They recommend improvements in access to education and opportunity towards disadvantaged groups. But still, evaluation of income inequality is still salient because in many circumstances, inequality in income is associated with inequalities in other realms such as political power, education and others, which in turn become self reinforcing.

Studies from several disciplines explain the long arm of poverty children's wellbeing and life course outcomes (for instance see Duncan and Brooks-Gunn 1997; McLeod and Shanahan 1993 & 1996). They submit that poverty affects long term cognitive development and socio-emotional wellbeing of children (Hill and Sandcroft 1995); has a negative impact on quality of parenting (McLanahan and Sandefur 1994); and that childhood poverty has a negative impact on adult productivity and often leads to dependency on welfare (McLanahan and Sandefur 1994; Duncan et al 1994). However, little is known about the impacts of *inequality*, rather than *poverty*, on children's wellbeing. For instance, what can we say about the lived experiences, and general wellbeing of non poor children who grow up in a world with increasing inequality? How does inequality shape their aspirations?

[10] The preoccupation with Pareto optimality obscures practical solutions to redistributive justice or taxation strategies.

Fortunately, a small but growing body of literature explores the link between inequality and human capital development. The general idea is straightforward – the rich have more resources to invest in the education and health of their children. Therefore, in the absence of effective and equitable social safety nets, one would expect to observe a distinctive gradient in welfare outcomes depending on the level of private family income and or wealth. The evidence for this thesis is non disputable. For instance, the rising trends in shadow schooling are without historical precedent (Buchmann 1999; Baker *et al* 2001; Kim 2004; Dang and Rogers 2008; Kozol 1996) or concerted cultivation of children (Lareau 2002). This body of literature illuminates the extent to which economic inequality in society drives social outcomes among the future generation.

The evidence to support the relationship between health and inequality is contested, partly because of the idea that poverty and deprivation affects health outcomes than inequality per se. Still, theoretically, Deaton (2001) suggests that income inequality may affect health outcomes indirectly in as much as the political process and provision of public goods often favors the wealthy. Further, Wilkinson and Pickett (2006) submit that income inequality directly affects health through causing psycho-social stress (depression, isolation, insecurity, and elevated levels of anxiety).

Apart from the concern about inequality and social justice, or inequality's relationship to other social outcomes, research on inequality is critical given the sheer scope, and the self reinforcing nature of inequality patterns in societies. Assuming limited public intervention, studies on intergenerational inequality lead us to expect inequality patterns among children to be self reinforcing (Bowles and Gintis 2002; Mare and Maralani 2006). In other words, differential access to education and health outcomes among children partly breed future wellbeing divergence within a cohort. In

particular, inequalities experienced during childhood manifests through assortative mating and differential fertility in adulthood. Children who have less are more likely to become less educated adults, marry partners of similar circumstances, and have fewer resources to raise strong families. Additionally, recent changes in family structure could have a bearing on resource distribution among children (Iceland 2003; Martin 2006; McLanahan and Percheski 2008) which subsequently signals particular patterns of intergenerational transmission of inequality (Bowles and Gintis 2001; Mare and Maralani 2006). In sub Saharan African, differential fertility patterns as well as major shifts in family structure spurred by HIV related mortality patterns among the adult population have raised questions about the effectiveness of the cultural practice of child fosterage, a key institutional arrangement that traditionally buffered inequality among children (Madhavan 2004; Case and Ardington 2006). Overall, the cyclical nature of inequality patterns suggests that a redirection of research efforts to the study of inequality dynamics among children may be useful.

Over and above issues of fairness and social justice, intergenerational transmission of poverty and inequality or the relationship between inequality and other social outcomes, some question the usefulness of estimates of global inequality. They argue that there is no global government, nor is there a global civil society that could can develop public policies nor foster private strategies that can address the situation (see for instance Bhagwati 2004). On the contrary, others submit that global inequality is important because globalization increases awareness of other people's income, and shapes perceptions and aspirations even of those in poor countries (Milanovic, 2006). In essence, the particular form of globalization that is sweeping across nations is one where cultural convergence fails to coincide with the economic convergence (Eloundou-Enyegue *et al* 2004). In other words, the locus of elevated aspirations (among people of the global South) has not coincided with the locus of

growing wealth (in the West). Therefore, Milanovic (2006) contends that a focus on inequality is not only a matter of moral and ethical justice but, it is also critical for pragmatic reasons as it has implications for political tensions.

3.7 Conclusion

This chapter presented previous studies on levels and trends in global inequality and articulated the factors that drive and mitigate these trends. Second, it synthesized the literature on inequality among children as global, regional, and national levels. Third, it critically examines the arguments on whether we should or should not worry about inequality?

The 21st century inherited a world that is distinctively different from that of a hundred years ago. We seem to have more of everything. The world economy and food production grew rapidly in ways that put to rest Malthusian concerns about population growth (Boserup 1987; Tiffen 1993), experienced positive gains in child survival and longevity (Wilson 2001) became more educated (Schofer and Meyer 2005). Yet, the greatest challenge is not whether the world has enough, but, whether the world distributes its valued resources equitable across its people over generations and what difference our collective choices have on human wellbeing? Nowhere are the issues of access and exclusion more pertinent than among the most vulnerable members of society – children and the elderly. In fact, the moral litmus test for society is how it treats the neediest. Lichter (1997) stated that, "A disproportionate share of today's poor children will become tomorrow's poor adults' and in all likelihood it is true that if "*children are the future*," then "*inequality among children is the future of inequality.*" Fortunately, the world of science has moved beyond its preoccupation with issues of poverty to addressing inequality more generally. Research on poverty is still extremely important, yet, it only focuses on the lower part

of the distribution. It therefore needs to be complemented by equally rigorous and persistent studies of inequality. Clearly, our understanding of inequality patterns is incomplete without a solid appreciation of children's lived experiences at local, national and global levels. After all, the world expects these children to grow up global at a time when we are unclear about how present circumstances shape future performances and outcomes.

Two major signals that inequality issues are finding their way to the center of global debates include the publication of the 2006 World Development Report that primarily focused on inequality. Second, while previous research on economic inequality could be found in a number of journals including World Development Report; American Journal of Sociology, American Sociological Review etc, in 2003 a Journal of Economic Inequality was founded and it promises to consider perspectives from across the social sciences including Economics, Demography and Sociology.

CHAPTER 4

PREVIOUS STUDIES ON CHILD FOSTERAGE WITHIN THE AFRICAN EXTENDED FAMILY SYSTEM

4.1 Introduction

Formal social safety nets such as targeted cash transfers or vouchers can potentially help buffer inequality in resource distribution among children. However, because these public strategies are often weak or missing, African countries often rely on informal networks of family solidarity to care for and educate children. This chapter reviews the literature on this informal practice of child fosterage. First, it presents the seminal work on child fosterage that estimated the prevalence of the practice. Second, it presents subsequent literature that documents microlevel effects of fosterage. Last, it argues that at national level the effectiveness of child fosterage depends not only on its prevalence and microlevel effects, but also on the directionality of flows. Yet, most previous studies focused only on the prevalence and microlevel effects. The current dissertation provides insights on the third dimension; directionality of flows.

4.2 Child Fosterage in the African Context

Child fosterage is the practice where children are raised by relatives and kin, away from their biological parents (Isiugo Abanihe 1985). This practice often involves the physical relocation of children from their birth homes to a different village, to urban areas or vice versa. In some cases, however, the child does not travel any distance, but rather, is born and raised in a different household away from its biological parents. This is the case when for instance a pregnant woman goes to her

maternal home, gives birth to child, and then leaves that child in the care of its grandmother or other relatives while she returns to join her husband. Either way, the practice involves the transfer of guardianship of the child to another individual of family (Eloundou-Enyegue and Stokes 2002) and is deeply rooted in the African extended family system where the essence of home and belonging transcend the boundaries of the nuclear family.

Child fosterage in the African context is distinct from the Western notions of adoption where legal rights and obligations are often permanently transferred from the biological to the foster family.[1] In the former, the transfer is temporary in nature, embedded in social networks and norms of reciprocity as well as mutual consent. Children are relocated with the understanding that they can be retrieved at any time at the prerogative of the host or biological parents (Bledsoe and Brandon 1992) of if any of the parties get dissatisfied with the arrangement (Eloundou-Enyegue and Stokes 2002). The burden of rearing the child is often shared between the host and biological parents with the later occasionally contributing towards food as well as schooling and health expenses (ibid). Anthropologists documented this practice especially in West Africa since the early 1970s (Goody 1973 & 1982). But, how many African children are fostered?

4.3 Prevalence of child fosterage in sub Saharan Africa

This section synthesizes the literature on prevalence of child fosterage in sub Saharan Africa. Child fosterage in sub-Saharan Africa remains a central focus of research across a diverse set of disciplines, including anthropology, sociology, and

[1] Informal child fosterage has historically been present also in western societies, especially among African Americans (Miller 1998). At the turn of 20th the century, it was found to be associated with lower educational outcomes for children (Moehling 2003); Also, transnational networks of care have been observed among Angolan children raised in Lison, Portugal (ϕien 2006).

economics. Its appeal lies in its ubiquity -- nearly 100 million (one in three) African children are reared and educated by adults other than their biological parents (Caldwell 1987).[2] Key factors characterize child fosterage in SSA are that (1) it varies widely across and within countries (2) it varies with age and gender of child (3) empirical estimates are sensitive to data source.

Prevalence of child fosterage is reported in two ways. First, some studies report statistics on the likelihood that a household fosters in or out? Second, some studies document actual numbers of children who are fostered. Regardless of what measure is adopted, however, it is clear that the informal practice of child fosterage accounts for the wellbeing of a large proportion of African children. Historical estimates based on Ghanaian census data show that a fifth of all children aged 10 and younger were not living with their parents in 1970 while in Liberia, forty percent of all mothers aged between 15-34 years reported to have fostered a child. Sierra Leone showed even higher child fosterage rates for 1974 ranging between 29 and 46 percent depending on the age group and ethnicity of the mother.

Similar historical trends of high prevalence were reported in Southern Africa. For example, a sample survey carried out in the mining town of Kitwe in Zambia in 1986 showed prevalence rates of 23% among primary school children aged between 5-9 and an even higher rate of up to 46% among young adolescence aged 10-14. Fosterage, in the Zambian context, was also shown to begin at an early age with about 16% reported to be under the age of one. This is in contrast to lower rates of younger children reported for Burkina Faso where 1% of children under 5 fostered (Akresh 2004). The Zambian case also illustrates the extent of ethnic variation in the practice of child fosterage. About 84% of out fostered children belonged to the matrilineal

[2] The World Bank estimates the population of the subregion for 2005 at 752,631,532 of which 44% are children below the age of 14.

groups consisting of the Bemba, Lunda, Chewa, Bisa, Kaonde, Aushi, Nsenga, and Tumbuka; 10% to the patrilineal groups of the Ngoni, Nmuanga, Mubwe and Lungu and about 6% belonging to bilateral ethnic groups. This ethnic factor which is also documented for many countries in West Africa including Nigeria, Sierra Leone and Ghana underscores that the practices is deeply rooted in culture more than being an adaptation to economic hardships of the time. The question remains though whether the prevalence of fosterage changed over time?

While historical estimates were either based on ethnographic data or decennial census data, several data sets have now become available to allow for trends analysis. Among the most used are Demographic and Health Surveys. These nationally representative surveys are carried out in more than twenty sub-Saharan African countries usually every five years starting in the mid 1980s. Most countries now have at least two surveys that allows for comparison over time. For example, Mensch (1999) observed prevalence rates of between 11 and 42% across 18 sub Saharan African countries in the late 1990's for children aged between 12 and 14 years. Low fosterage countries include Mali (18%), Kenya (19%), Burkina Faso and Senegal (each with 21%) while countries with high fosterage rates include Uganda (31%), Benin (33%), Cote d'Ivoire (36%) and Namibia (42%). Countries that fall within the middle range (22-30%) include Cameroon, Central African Republic, Comoros, Ghana, Madagascar, Niger, Nigeria, Tanzania, Zambia and Zimbabwe.[3] Notably, more girls than boys were in foster homes across all the reported countries with the most extreme difference observed in Benin (19% of all boys compared to 33% of all girls) followed by Ghana and Niger (20% of all boys compared to 30% of all girls; and 16% of all boys compared to 26% of girls respectively).

[3] Note that while Mensch (1999) reports prevalence rates for both girls and boys, my commentary is based on the girls' rates which are higher than those of boys across all countries.

Last, it is important to explain a common misconception; that child fosterage is most common among poor rural households who send their children to urban kin. While many are tempted to use the myth of rural/urban infrastructural disequilibrium to suggest that child fosterage is predominantly practiced by the poor large households in rural areas with children moving from rural to urban environments, available evidence does not lend itself to this theory. Rather, child fosterage in SSA is a dynamic process which is neither unidirectional nor limited to the poor single mothers, but rather, it is common in all family types (Afaq 1996).

Additionally, the prevalence of child fosterage among rural and urban households varies across contexts. For example, Isiugo-Abanihe (1985) reports that more urban than rural Ghanaian mothers who were aged between 15 and 34 years out fostered their children (23 and 17% respectively). He concludes that these trends may be due to poverty levels and general urban problems as well as the need for younger women to participate in the labor market. A more recent study that uses Ghana DHS data finds that this trends continues to obtain where women with high education and those in professional jobs were more likely to out foster their children (Klomegah 1997), although this too varies across national contexts. For example, a recent study based on Cameroon found the reverse trend. Within rural households, children at secondary school age were six times more likely to be out fostered than their younger siblings (Eloundou-Enyegue and Stokes 2002). In the same study the authors also find that while a fifth (20.9%) of rural mothers had ever out-fostered a child, only a tenth of their urban counterparts had (9.4%). Another recent study showed that most movements of children are either from rural to rural or from urban to urban areas (Akresh 2004). This study found that about two thirds of the households that exchanged children lived within 25 mile radius of each other, a quarter were located in the city of Ouagadougou, about a 50 mile radius away, 6% were in other provinces

about 150 miles away and about 9% were in Cote d'Ivoire which was about eight hundred miles away. In sum, the majority of children circulate within short distances relative to their original biological households. Destinations differ according to context but based on the few empirical studies reviewed here, small proportions of children circulate from rural to urban areas and even fewer children move from urban to rural households.

While the rural to rural, rural to urban, urban to urban, and urban to rural categories are useful as heuristic devices, it is important to note in reality, a single child may experience passage through more than one of these. For example, a young child may be weaned with a grandmother, and later moved to an aunt or uncle in the neighboring village to complete primary school. Upon entry to secondary level, or in response to sudden shocks such as death, the same child may migrate to the city to live with other relatives. As such, fosterage ought to be viewed as a dynamic process that changes over one's life course. Also, available evidence suggests that characterization of child fosterage as a social safety net for the rural poor are both erroneous and misleading.

4.4 Motivations for Child Fosterage

What motivates individuals to foster children? This section describes the literature on the factors that drive fosterage trends. It also summarizes the literature on the agency of the fostered child. Child fosterage serves a variety of economic, cultural and social functions. Three key seminal studies (Goody 1982; Isiugo-Abanihe 1985; and Caldwell and Caldwell 1987) provided insights on factors that drive families and individuals to foster children.

Goody (1982) views child fosterage as a functional institution designed to help *social* reproduction while Caldwell and Caldwell (1987) underscores its centrality to

biological reproduction where fosterage subsidized the cost of childrearing among poor families and thus supported continued high fertility in Africa.[4] Isiugo–Abanihe (1985) develops a typology of fosterage motivations. He observes five main motivations of fosterage; kinship, crisis, apprenticeship, domestic, and educational[5]. First, kinship fosterage strengthens kin ties through the transfer of young children to their grandparents, facilitating the weaning process and providing parents an opportunity to resume sexual relations. Second, crisis fosterage involves the transfer of a child in the event of a traumatic event such as death, sickness, divorce of parents or when a child is born out of wedlock. Third, apprentice fosterage involves instances where children are relocated among kin in order to gain important life skills in particular trades and fourth, under domestic fosterage, children are accepted solely to provide household labor. Fifth, and most pertinent for my scholarship, is educational fosterage, where children are relocated to stay with other relatives, especially as they progress to secondary school or when they seek higher religious studies such as among Muslims. This foregoing typology continues to suffice today because it is comprehensive enough to capture the motivations fosterage even though the relative importance of each of these five has changed over time. In fact, Ainsworth (1996) argues that child fosterage has adapted in ways that it is serving more economic rather than cultural purposes of socialization. To my knowledge, however, no one has attempted to empirically estimate the relative proportion of children fostered based on the various motivational factors. Perhaps this is partly because of the overlap in individual decision making by households.

[4] This informal subsidization partly explains why contrary to expectations, some studies failed to find a negative association between family size and schooling (Gomes 1984).
[5] These motivations also vary depending on the age of a child (Akresh 2004) as younger children may be fostered for reasons other than education.

4.4.1 Decision Making on Child Fosterage

How do households or individuals decide when to foster, which child to foster, from whom to foster, and for how long? Even with the above motivations, decision making at individual or household level vary on many dimensions including the factors that motivate sending and receiving households and the agency of the fostered child. In many ways, the motivations ultimately inform the selection and the destination. Viewed from the supply side, sending households' motivations may fall within the Isiugo-Abanihe (1985) characterization which include; strengthening of kinship ties through collective socialization of the child, crisis fosterage after death, divorce or extra marital conception, apprenticeship in various trade, education, and to smooth domestic labor supply. In addition, work by Akresh (2004) shows that households use fosterage as a risk coping mechanism for adjusting household size and composition after external income shocks. Akresh's data also shows that access to good social networks and number of older girls increases the probability that a household would out foster a child.

From the demand side, the motivations are also variable. Receiving households may demand to foster in for companionship or for labor smoothing. For those who foster in with the intent of improving the outcomes for the child, the motivations may be twofold. First, some may do so for altruistic reasons, the simple desire to do good unto others even at the expense of foregoing personal consumption, (Kolm 2000, Maheiu 1989). However others may accept to foster not because they seek to do good, but because society obliges them to do so. This is the case for example when one is fostered or helped within the extended family networks and is expected to reciprocate. Second, some individuals are never consulted before a fosterage move occurs. For instance Eloundou-Enyegue and Stokes (2002) note that some relatives may simply arrive, and over time, they blend into the family regardless

of the opinion of the receiving household. In such a case, fosterage occurs as an imposition from without. Obviously, outcomes for the fostered child depend on the dynamic dialectic relationship between the motivations of both sending and receiving sides, as well as the agency of the individual child. Indeed while I have focused on the motivations of adult family members, it is the case that some older children are able to negotiate their way into fosterage relationships and yet these may be harder to empirically demonstrate.

Choice of Child and Destination

Does age, birth order, gender or other characteristics of the households or individual child matter? Studies show that selection of the fostered child is not a random process, but rather, a well articulated outcome of the motivations of involved actors. What appears most straightforward is fosterage under crisis of death, or divorce of the child's parents. In this case the goal would be to place all children in households that maximize their chances of survival and perhaps they future economic wellbeing as well. Younger children are often fostered out to grandparents for their companionship as well as to allow parents to resume sexual relations while freeing up time for the mother to invest in other activities that enhance the family's wellbeing. For example, parents often have to make simultaneous decisions on whether to send a child to school or into the labor force and this simultaneity works negatively on girls education (Gage, 2005). Family size and birth order has not been shown to determine likelihood that a child would be fostered but rather, performance in school. The latter varied between urban and rural households. Urban households were more likely to out foster children who were poorly performing in school while in rural areas, well performing children.

Fosterage flow destination are often complex but its generally agreed that most are imbedded in the social networks of sending and receiving households. Eloundou-Enyegue and Stokes (2002) found that rural Cameroonian children with a sibling living in urban areas were 1.5 times more likely to be out fostered than those without such close familial links. In another study, Eloundou-Enyegue and Shapiro (2005) inferred that social networks may be critical in determine the likelihood for fosterage. One would expect that if fosterage decisions (both sending and receiving) based on need, then children from the poorest households would be the most likely to be out fostered. But, on the contrary, evidence from Cameroon showed that after ranking sending households by wealth, households in the second quintile were most likely to send children out that those in the poorest quintile. The authors infer that perhaps this outcome is due fact that the poor possibly have poor network quality and are therefore not as likely to find viable options for out fostering their children.

4.5 Sustainability of the African extended system under exogenous macro level shocks

To what extent has the African extended family system responded to recent macro level exogenous shocks such as the HIV/AIDS disease burden, or the economic downturns of the late 1980s and 1990s?

4.5.1 The Sustainability of African Extended Family under HIV/AIDS

Recently public and academic lens focused on examining to what extent the extended family remained an effective social safety net in the face of increased volumes of orphaned children. Complex sets of issues arise with regards the impact of the orphan crisis on the extended family. Among them is the extent to which the crisis:

1) Exacerbated the absolute number as well as proportion of children fostered?
2) Altered the relative distribution of children fostered under crisis?
3) Affected the direction of flows of fostered children
4) Led to unwillingness of households to receive foster children?

A recent study in Uganda based on a panel household survey data set showed between 1992 and 1999 foster children who were less than 14 years of age increased from 17 to 28% and children less than 6 years of age doubled from 10 to 20% (Deininger *et al* 2005) . Other studies show that parental death is a significant determinant of child fosterage. Aids orphans were significantly more likely to move than nonorphans but orphans whose parents died of other causes were more likely to move compared to AIDS orphans (Ford and Hosegood 2005). Fosterage forms have shifted from voluntary to crisis-led fosterage (Madhavan 2004, Oleke *et al* 2005) and orphans are more likely to be raised in households headed by the elderly (Drew *et al*, 1998, Guest 2001). Additionally, the HIV/AIDS pandemic has triggered the emergence of new forms of social ties such as through non-governmental organizations or various types of voluntary community-based organizations that are unlike traditional networks of kinship solidarity. Essentially, the pandemic has exacerbated the volumes of fostered children, particularly those fostered under crisis. It has also changed the nature of kinship structure that orphaned children can rely upon for effective fosterage.

The most heated debate in the literature is whether orphans are at a greater educational disadvantage than are poor non orphans. Some studies found no evidence of orphan disadvantage (Lloyd and Blanc 1996) or find this disadvantage to be smaller than that associated with poverty (Ainsworth and Filmer 2007). Yet the bulk of the literature shows evidence of profound disadvantages (Case, *et al* 2004; Kendall 2007;

Case and Ardington 2006; Evans and Miguel 2007). Kendall and O'Gara (2007) find Malawi orphans to be at a particular disadvantage because of absenteeism before and after parental death. The use of longitudinal datasets has helped isolate the impacts of parental death events on orphans' school access, persistence and achievement (Case and Ardington 2006; Evans and Miguel 2007). Case and Ardington (2006)'s study from KwaZulu Natal found no significant differences in enrollment odds between orphans and non-orphans but detected profound divergence in educational attainment and school quality. Maternal orphans were thus 0.12 of a year behind in their schooling and had 7 percent less spent on their education. This was true of orphans in poor, as well as wealthy, households. Overall, this study clearly shows that parental death *causes* inferior educational outcomes for children, including those fostered into better endowed households. These results were supported by Evans and Miguel's analysis of a five year panel dataset of 20, 000 children from Kigera in Kenya, where parental death reduced children's participation in school.

Overall, longitudinal studies confirm that orphans face inferior educational outcomes than do non orphans. Even where differences in basic school enrollment are not striking, there is evidence of disadvantage on subtler aspects of wellbeing such as school quality, emotional nurturing, or social networks (Rehman and Eloundou 2007).

4.5.2 Sustainability of the African Extended Family System During Economic Downturns

To what extent has the extended family system adapted to periods of economic hardships? Eloundou-Enyegue and Stokes (2002) provides insights that address this question. This study uses a rich retrospective demographic dataset comprising 812 randomly selected households in 1995 (520 rural and 292 urban). The data yielded 2, 257 children who had entered school, recorded over many years providing 17, 208

records. These data made it possible for the tracking three types of trends; the long term trends in child fosterage that would have happened naturally due to urbanization and other slow processes, changes in fosterage practices during crisis years (dummy variables for years), and possible intergenerational changes (data was from women aged 15-65+ and these were separated into two cohorts). They estimate three logistic regression models for all children, rural, and urban children. Their results are telling; (1) Child fosterage patterns increased over time (2) fosterage patterns did not change across successive generations of Cameroonian women and (3) child fosterage significantly declined during all crisis years with the odds of being out fostered being as much as 25% lower than previous non-crisis years. Evidence from focus group discussion also seemed to suggest a decline in fosterage during crisis years. Overall however, the authors do not infer a causal relationship between structural adjustment programs and the decline in fosterage in Cameroon because of various other factors not covered within the realm of their control variables.

4.6 Evaluating the effectiveness of fosterage systems

The effectiveness of child fosterage systems on ensuring child wellbeing depends on three things; the volumes of fostered children, the direction of the flows, and the treatments and outcomes for those children in the households into which they are fostered (Eloundou-Enyegue and Shapiro 2005). Each of these areas is essential, but individually only provide a partial view. As shown above, the literature on the prevalence and motivations of fosterage are well developed. In addition, a growing number of studies examined micro-level outcomes for children in the areas of health, education, and labor. As well, some studies have addressed not only the direct outcomes for children, but also the outcomes for sending and receiving households in terms of labor allocation (optimization), consumption, and dynamic educational

outcomes for siblings of the children who are fostered (Isiugo Abanihe 1985; and Akresh 2004).

4.6.1 Microlevel Studies on Child Fosterage and Social Outcomes for Children

Studies that emerged in the 1990s sought to evaluate the relationship between the fosterage event, and social outcomes for the child including health and education as well as for household consumption. Whether the health of fostered children improves or is maintained after the transfer is not clear, but rather, these outcomes are be predicted by the degree of voluntariness of the fosterage arrangement (Castle 1996). Evaluating Malian children, Castle concluded that voluntarily fostered children did not have inferior nutritional outcomes compared to biological children. Contrastingly, Bledsoe, *et al* (1988) found that fostered children were more likely to fall sick than biological children and they attributed this outcome partly to the tendency of fostered children to grow up with elderly grandparents who have limited knowledge on modern medical advances and opportunities for treatment or preventive care. Similarly, Bledsoe *et al* (1992) argued that fostered children were at a greater risk of death than were other children. Deininger *et al* (2005) showed that fostered children had significantly lower access to three health related indicators; vitamin A capsules, and vaccination against measles and diphtheria.

Studies focusing on schooling outcomes reached similarly divergent conclusions. More studies focused on educational outcomes for fostered children more generally, and orphans in particular. For example, Akresh (2004) carried out an extended study of 300 paired sending and receiving households in Bageza province of Burkina Faso for a period of 3 years (1998-2000). He sought to explain the educational outcomes of fostered children (in terms of school enrollment) compared to

their siblings who were not fostered, to biological children with whom they live, and also to other children from non fostering households. Akresh concluded that the practice of child fosterage results in Pareto efficient outcomes. His data revealed that compared to the children from non-fostering households, siblings of the fostered child, biological children of the host household, and the fostered children all experience increased enrollment after the fostering exchange. Specifically, he showed that fostered children were 3.6% more likely to be enrolled after the fostering event, than their biological siblings. His data, however showed gendered outcomes where boys were 2.8% more likely to be enrolled than were girls.

On the other hand, other studies have argued the strength of relational ties is significantly affects the enrollment of the fostered child (Case *et al* 2004). They argue that the Hamilton Rule prevails where enrollments are best for children who live with their parents, followed by those who live with grandparents, other relatives and the worst being those who live with non-relative. Indeed, grandmothers are perceived as being able to provide more nurturing for their grandchildren without bias or prejudice (Madhavan 2004). Similarly Ksoll (2007) found evidence that illustrated that placement of orphans in the family network, compared to a random placement, has positive consequences for their education. His analysis showed that orphans receive approximately one year of education more in caretaking households than is they were placed with a random household. In another study, Kobiané *et al* (2005) found that overall, a child raised by parents in association with a sibling or uncles and aunts had by far the greatest chances to be in school compared to those raised by parents, especially in rural areas. Children raised by "other relatives" and non relatives had the least likelihood to be in school.

The literature provides two possible reasons for the poor performance of fostered children. First, either families derive domestic labor from fostered children

(Pilon 2003) or that fostered children are made to work harder with some resorting to crime and prostitution (Van de Waal 1996). Pilon (2003) argues that fosterage motivations differ between urban and rural households. In a 1981study based on census data for Togo, he found that female headed households fostered almost twice as high proportions of children than male headed households (29.5 and 15.8% respectively). These urban female households also tended to host a disproportionate number of girls. Using 1996 census data from Ougadougou, Pilon (2003) found that wealth in urban areas was negatively associated with enrollment of fostered children. Middle class families tend to have dual earner spouses who often need house help to take care of domestic chores. While some of these foster children may enroll in evening classes, their attendance is irregular, compromising their achievement.

Studies that focus on orphans and educational attainment yielded mixed results. In short, those that examined access (enrollments) using cross- sectional data find no orphan disadvantage (Lloyd and Blanc 1996) or conclude that the gap in school achievement between orphans and non-orphans is dwarfed by the gap between poorer and richer household (Ainsworth and Filmer 2007). On the other hand, a growing number of studies that use longitudinal datasets reveal profound disadvantages between orphans and non orphans. For instance, evidence demonstrates that while orphans may appear to be enrolled, they participate less and are likely to drop out earlier than non orphan (Case *et al* 2004; Kendall 2007; Case and Ardington 2006; Evans and Miguel 2007). Kendall and O'Gara (2007) find Malawi orphans to be at a particular disadvantage because of absenteeism before and after parental death. Longitudinal datasets isolated the impacts of parental death events on orphans' school access, persistence and achievement (Case and Ardington 2006; Evans and Miguel 2007). Case and Ardington (2006)'s study from KwaZulu Natal found no significant differences in enrollment odds between orphans and non-orphans but detected

profound divergence in educational attainment and school quality. Maternal orphans were thus 0.12 of a year behind in their schooling and had 7 percent less spent on their education. This was true of orphans in poor, as well as wealthy, households. Overall, this study clearly shows that parental death *causes* inferior educational outcomes for children, including those fostered into better endowed households. These results were supported by Evans and Miguel's analysis of a five year panel dataset of 20, 000 children from Kigera in Kenya, where parental death reduced children's participation in school. Overall, longitudinal studies confirm that orphans face inferior educational outcomes than do non orphans. Even where differences in basic school enrollment are not striking, there is evidence of disadvantage on subtler aspects of wellbeing such as school quality, emotional nurturing, or social networks (Rehman and Eloundou 2007). Where striking disadvantages exist, they are usually tied to living arrangements.

The evidence on the impact of child fosterage on household consumption is mixed. For example, Case *et al* (2004) found no change in living standards for households that had fostered children. Yet, Deininger *et al* (2005) showed that for Uganda, while the proportion of children who were orphaned increased, between 1992 and 1999, the Universal Primary School policy improved school attendance for fostered children. Results from their logistic regression models with household fixed effects reveal that households which in-foster children experience significant reduction in consumption, income and household investment.

Overall, the above literature provides deep insights on micro-level effects of fosterage. In other words, the literature reveals the dynamics of what happens within households in which children are fostered. Even as this body of literature shows the role of the African extended system in shaping inequality patterns in social outcomes for children in sub Saharan Africa, it does so partially. To be able to get a complete picture of the effectiveness of child fosterage, one needs to not only understand the

prevalence or micro-level dynamics, but also, the macro-level directionality of flows and how they change over time.

4.7 Conclusion

In the absence of formal social safety nets, African families and households depend on informal forms of solidarity such as child fosterage which makes it possible for the extended family to share the burden of child caring. This chapter reviews the literature on the cultural practice of child fosterage in sub Saharan Africa. It reveals that child fosterage is ubiquitous within the region where fostered children account for up to a third of the population of children below the age of fifteen. Second, the chapter reveals the rich literature that tracks the micro level dynamics of fosterage including reasons for and decision making during fosterage, and the relationship between fosterage and wellbeing outcomes for children. Other micro levels studies evaluated the sustainability of fosterage under macro levels shocks such as economic downturns as well as the HIV/AIDS disease burden and its accompanying orphan crisis. Last, and most importantly, the chapter argues that while the rich literature on prevalence and micro level effects is salient and insightful, it provides a partial lens through which one can evaluate the effectiveness of child fosterage in buffering inequality among children. The extent to which the extended family system can be relied upon as a platform that equalizes opportunities between children depends also on the directionality of flows. In other words, where fosterage is effectiveness or not depends on; (1) prevalence (how many children are fostered), (2) micro level effects (how fosterage translates into positive wellbeing outcomes such as health and nutrition or education), (3) directionality of flows (whether fosterage concentrates children in households that are better able to meet their socio-economic needs. The current study

is concerned with the third aspect – evaluating the directionality of flows of fostered children in sub Saharan Africa.

CHAPTER 5

THEORY OF INEQUALITY

5.1 Introduction

In order understand the dynamics of inequality among children in sub Saharan Africa, this study draws from theoretical perspectives across three main disciplines; economics, sociology, and demography. This chapter provides a summary of the key theories on inequality. First, the chapter discusses economic theories of inequality, specifically focusing on Kuznet's inverted U-curve theory as well as ideas on the relationship between poverty, economic growth, and inequality. Sociologists have long been fascinated with social hierarchies within and across societies from the classical thinkers such as Karl Marx to contemporary theorists. At the center of sociological enquiry lies the need to understand what social inequalities exist, why they exist, how they reproduce themselves, and the consequences of inequality. As such, this chapter provides an overview of the ideas on inequality within the Marxist, dependency, world systems, functionalist as well as feminist perspectives. These broad theoretical traditions are useful heuristic tools through which one can understand the dynamics of inequality among children in sub Saharan Africa. The chapter ends with a synopsis of the role that demographic factors play in (re) producing inequalities within and across societies. This discussion is centered on mortality and fertility transitions in sub Saharan Africa.

5.2 Economic Theories of Inequality

Economists have long been concerned with not only the levels of resources in society, but also, their distribution. The current study especially benefits from the

theoretical perspectives and empirical findings on (1) the relationship between economic growth and inequality, and (2) the relationship between poverty and inequality. Below I discuss these in turn.

5.2.1 Economic Growth and Inequality

Few papers generated as much interest among students of inequality as Kuznet's 1955 seminal article. In it, he outlined his thesis on the relationship between economic growth and levels of income inequality within a country over time. Using data from the United States, England, and Germany, Kuznets the inverted U-curve theory where inequality was observed to increase at an increasing rate, peak at some point, and then decrease at a later stage as economies expand. Consistent with modernization theory, Kuznets observed that the initial increase in inequality stemmed from fundamental demographic shifts where large sectors of the population moved from the agricultural to the industrial sectors until a certain threshold was reached and then the trend would taper off and reverse. During this demographic transition, levels of inequality would decrease because people would supposedly move from the low return agricultural sector to the high paying emerging industrial sector.

Another way to understand Kuznet's Inverted U-Curve theory is to look at how inequality becomes growth enhancing over time? In essence, Kuznet's theory is closely linked to endogenous growth theories such as Solow's where inequality in society could theoretically lead to higher economic growth. The pathway through which this occurs begins with an increase in aggregate savings among the rich who have a higher marginal propensity to save compared to the poor who are in perpetual poverty traps. Higher savings lead to higher capital accumulation within a country which eventually leads to economic growth. While some earlier studies found evidence that supports the positive link between savings and inequality (Houthaker

1961; Kelly and Williamson 1968), a growing number of scholars fail to find any consistent link between growth and the U-curve (for instance see Galor 2000; Deininger and Squire 1996; Fei Ranis and Kuo 1979).

First, the relationship between income inequality and economic growth depends on the initial conditions or the starting point of each nation. Galor (2000) submits that the link between income inequality and economic growth only obtains within contexts of low economic development. At later stages of economic development, however, human capital accumulation is what leads to economic growth. Yet, if high levels of inequality exist within countries, it may lead to underinvestment in human capital due to credit market imperfections eventually leading to lower economic growth. Even then, Dollar and Kraay (2002) failed to find evidence to support the hypothesis that income inequality rises at low levels of development and tapers off for countries at higher levels of development.

Related to the above, a study by Deininger and Squire (1996) reveals the different performance of low, middle, and high income countries over time. They find that high income countries were experiencing higher levels of inequality; middle income countries were stable, while low income countries were experiencing declining levels of inequality. So in essence, instead of countries moving along the inverted U-curve over time, the entire curve itself was shifting.

Second, Ranis and Kuo (1979) looking at the trends in income growth and inequality in South East Asia observe that a rapid increase in incomes was never accompanied by an initial growth in inequality. Moreover, the growth in incomes in the East Asian countries was not associated with dramatic demographic shifts. On the contrary, as Ranis and Kuo observed, the equity with growth was spurred more by the high growth rates within the agricultural sectors.

Third, a growing number of studies find evidence that suggests that high levels of inequality may in fact lead to lower economic performance within countries. Thorbecke and Charumilind (2002) summarize four main pathways through which inequality may be growth constraining. Income inequality may lead to high rent seeking behavior, less secure property rights and ultimately slow economic growth. Income inequality may also impact growth patterns through social tension, crime, and political instability which in turn may lead to uncertain investment environment. In addition, it may also be the case that income inequality may result in a population where the median voter is poor. In this context, the population may advocate for higher taxation and greater redistribution strategies in ways that reduce propensity to save or invest. Last and even more significantly, income inequality may lead to lower economic performance through demographic processes. In contexts of high income inequality, the poor (who account for the larger proportion of the population) may continue to have more children thereby increasing the aggregate age dependency ratio of the nation. In essence, high fertility levels may require nations to carry a high burden of a young population that consumes more than it produces[1].

In short, the Kuznets thesis came under attack for the mainly the following reasons. First, the character and performance of countries in terms of income inequality trends is usually varied that it seldom falls neatly in the inverted U-curve pattern. Second, Kuznets problematized the transition from a traditional to a modern society in a unilinear, non reversal steady state of high incomes and low inequality. However, in reality many countries have experienced reversals and deindustrialization and subsequent rising inequality as stated above. Third, as illustrated above, high levels of inequality may in fact lead to lower economic growth because the

[1] This may not be the case in contexts where child labor is the norm – children actually contribute to the household and national economic growth.

relationship is mediated by rent seeking behavior, political tension, distorted taxation regimes, or through fertility transitions.

Still, the Kuznets thesis has been used to explain a wide array of outcomes from the relationship between inequality and economic dependency of nations (Weede 1980); to the relationship between inequality and social variables such as access to education (Eloundou-Enyegue 2004) and to explain the role of democratic leadership and institutions in promoting greater equality (Weede 1980, Crenshaw 1992), as well as demographic shifts between agricultural and modern industrial sectors (Kuznets 1963; Robinson 1976).

5.2.2 Economic Growth, Poverty and Inequality

Key questions that are pertinent to the discussion on inequality are: is growth good for the poor and if so, under what circumstances. Second, is there a tradeoff between poverty, and inequality?

Dollar and Kraay (2002) use data from 92 countries to test several hypotheses, including whether economic growth is good for the poor? First, they find a very strong positive and linear relationship between per capita incomes of the poor and average incomes. In other words, their evidence shows that within countries, incomes of the poor rise equiproportionately with average incomes. As such, no systematic relationship exists between average incomes and the share of incomes that accrues to the poor. In short, economic growth is good for everyone, including the poor. Further, this study tests whether policies and institutions that raise average incomes have systematic effects on the income shares accruing to the poor. They find no evidence to support that openness to international trade, macro-economic stability, moderate size of government, financial development, and strong property rights and rule of law positively impact the share of income for the poor. In essence, if growth

benefits everyone, then, distribution is the only way that can equalize opportunities within societies. In fact, Edward (2006) argues that not all growth is good for the poor. Citing the exceptionalism of China, Edward argues that particular forms of approaches to growth, such as state interventionist strategy are good for the poor.

Next, is there a tradeoff between poverty and inequality in developing countries? Turns out that the answer depends on what type of inequality one considers; relative or absolute? In a study based on data from 70 developing countries, Ravallion (2005) plots changes in the log of absolute poverty ($1.08/day) against changes in relative and absolute inequality. They find a strong positive (0.31) correlation between poverty and relative inequality. This relationship was even stronger for transition economies in Eastern Europe and Central Asia where for countries in which poverty rose the most, relative inequality also rose the most. However, when the analysis is repeated for absolute inequality, Ravallion finds strong evidence for a poverty- absolute inequality trade off (correlation coefficient of -0.35). In short, Ravalion's evidence suggests that those who desire to see a world with a lower absolute gap between the rich and the poor must also be willing to accept a world of lower absolute living standards for poor people.

5.3 Sociological Theories of Inequality

The study of social hierarchies is central to Sociology. Below, I outline some of the key theories from which this study draws. I begin with a synopsis of Karl Marx's classical ideas on capitalism and social inequality. This is followed by two interrelated traditions that are grounded in Marxian philosophy: Dependency Theory and World Systems Theory. This is followed an abridged critique of Structural Functionalism and Feminist Theories. Together, these bodies of knowledge add much

to our understanding of the root causes, as well as possible solutions for social hierarchies of our time.

5.3.1 Critical Theory: Marxist Perspectives

Karl Marx (1818-83) was concerned with the historical basis of social inequality. He was especially preoccupied with understanding the oppressiveness of capitalism and its potential for distilling distinct hierarchical social classes within society. He therefore sought to develop a theory that not only explained the structural roots of social inequality, but one that also provides insights on how to radically change society (Calhoun *et al* 2003). At the time he was writing, Europe was undergoing fundamental social transformations spurred by the industrialization. It is important to note that these social transformations did not create social inequality. Rather, they fundamentally changed the form and scope of inequality that existed in society. In order to fully understand Marx's theory on capitalism and inequality, one needs to appreciate the history of development, inequality and social stratification.

Each historical epoch is characterized by some form of social inequality. What differs is not the presence of inequality, but rather, its depth and form. Take for instance eight ideal typical social systems (i) tribalism in hunting and gathering societies (ii) Asiatic mode (iii) feudalism (iv) Slavery (v) Caste Society (vi) class system in capitalist societies (vii) state socialism, and (viii) advanced industrialism (Grusky's 2001: 9). Only in the tradition, tribal hunting and gathering society is there an absence in inequality, and an emphasis on meritocratic selection. All the other social systems exhibit medium to high levels of inequality. Another way to look at this historical fact is to go back to the feudal period in Europe (1400 to 1600s), power and status resided in land ownership where the nobility ruled and serfs were bound to lifelong servitude. This general historical period also coincides with the inception and

consolidation of slavery in the Americas around 1526. Between 1600 and 1700 lies the mercantile period marked by developments in transportation, especially ship building that fostered intercontinental exploratory and trade voyages. In terms of political power, this period marked the rise of the monarchy across Europe after discontent with endless feudal wars. Political power, therefore, resided in kings and queens. Still, other social classes existed as well. The nobility still had control over land and serfs. Merchants held tremendous social and economic power over workers. In fact, Chase- Dunn (2001) argues that the phenomenon known as globalization today has its roots in the mercantile period because this is when transnational trade and political strategies consolidated. Both the feudal and mercantile periods represented successive historical epochs marked by deep structural inequalities with limited opportunity for social mobility.

Industrialization occurred between the period 1700 and 1860. This period was marked by deep social and economic transformations that were spurred by developments in agriculture, textiles, mining and transportation. Key drivers of the industrial revolution include James Hargreaves' invention of the Spinning Jenny in 1769, James Watt's design and manufacturing of the first steam engine in 1775, and subsequent development of iron in the 1780s. In order to understand Karl Marx's ideas on social inequality, one has to understand the profound transformations that were driven by these economic and engineering innovations. Society still bore remnants of the nobility (landowners and serfs), and the monarchy (kings and queens), as well as the religious leadership. Industrialization altered the power relations by creating a new class of industrialists (capitalists) who depended on cheap labor from the working class, otherwise known as proletariats. It is also late in the 18th century (1789 to 1799) that the French lower class revolted against the monarchy, advocating for citizenship unalienable rights. While the French Revolution was driven by many causes, chief

among them was the discontent with the nobility and monarchy's conspicuous consumption at a time of sustained poverty, hunger, and malnutrition among the masses. In short, the late 18th century helps us understand the social milieu in which Marx spawned his ideas on historical materialism. In the Manifesto of the Communist Party Marx and Engels (1948; 1967) wrote:

> "The history of all hitherto society is a history of class struggles. Freeman and slave, patrician and plebeian, lord and serf, guild-master and journeyman, in a word, oppressor and oppressed stood in constant opposition to one another, carried on an uninterrupted, now hidden fight, a fight that each time ended, either in a revolutionary reconstitution of society at large, or in the common ruin of contending classes. In earlier epochs of history we find almost everywhere a complicated arrangement of society into various orders, manifold gravitation of social rank. In ancient Rome we have patricians, knights, plebeians, slaves, in Middle Ages, feudal Lords, vassals, guild masters, journeyman, apprentices, serfs, in almost all of these classes, again, subordinate gradations"

It is not in doubt that Marx worried about the history of social inequalities. But, he also cared about moving beyond academic rhetoric to developing viable solutions to change the status quo.

Marx's ideas on fundamental causes of, and solutions to inequality were rooted in Hegelian philosophy, especially the dialectical analysis which was not only a way of thinking, but also a way of viewing the world. The dialectical analysis submits that social values cannot be separated from social facts and therefore values (including moral values) have a place at the center of social analysis. Further, the dialectical method argued that the world is not made up of static things, but rather, complex relationships. As such, it placed tremendous importance on understanding social relationships, dynamics, conflicts, as well as inherent contradictions within systems. While Hegel focused on ideas, Marx, on the other hand was not interested in abstract

theorizing. On the contrary, he was concerned about the material basis of human existence. He rejected the call for orderly change or social reform. To Marx, the fundamental contradictions of capitalism could only be remedied by a revolution that overthrows the systems and replaces it with some form of egalitarian form of social organization.

Marx's developed his analysis of the contradictions of capitalism on the premise of his idea of human nature, its relationship to labor, and for alienation under capitalist mode of production. Marx understood that there exists a fundamental human nature (*or species being*) that gets changed during each successive historical epoch. He believed that species beings are productive beings. In order to be able to survive, species being need to work in and with nature to produce basic needs such as food, clothing, tools, shelter and other life's necessities. The production process is not abstract. Rather, it is a complex process that occurs for each individual in concert with other beings. In other words, human beings are inherently social beings who are intricately linked to nature. Throughout history, this link between species beings and nature has been weakened and destabilized but capitalism present, by far, the most acute threat (Ritzer and Goodman 2004). To Marx, capitalism is a complex series of structures and processes that erect formidable barriers between individuals and the production process. Not only do individuals get alienated from the production process, but also, to each other.

Marx viewed capitalism as an economic system that comprises of three distinctive social classes. Social classes constituted common positions, were relational, and were rooted in the social organization of production (Wright and Peroni 1977). Marx observed the bourgeoisie capitalists, petty bourgeoisie, and proletariats classes. The later were a multitude of overworked and underpaid workers toiling for the benefit of few industrialists or owners of means of production, the bourgeoisie

class. As stated earlier, even if Marx appreciated the nature and scope of stratification systems in earlier historical epochs, he felt that the capitalist system was more massive and colossal. In his labor theory of value, Marx argued that in capitalist societies the bourgeoisie class accumulated surplus by paying proletariats way less than the value of their labor. Capitalism, in his opinion, was not only an economic system, but also a political one, a mode of exercising power, and a process of exploiting workers. Marx also believed that the capitalist system was not only destructive and exploitative, but also inherently unstable. He predicted the tendency for capitalists to oversupply the market with commodities for which there were insufficient buyers leading to cycles of booms and busts. Perhaps his most misplaced hope was his predictions for natural solidarity among the proletariats. Marx assumed that the working class was a single class with shared values and identical experiences at the hands of the oppressors. He envisaged that the internal contradictions of the capitalist society would inevitably lead to sustained class struggles culminating in proletarian revolutions where human beings were free to engage in creative pursuits. His ultimate dream was a world of human emancipation and self realization without the need for an all encompassing state.

One of the greatest values of Marx's theory of historical materialism is that it was grounded in material facts of human existence. He took an unequivocal stance again existing inequalities and offered a way to understand their genesis, and ultimate solutions. At a time when most theorists advocated for reform, Marx's radical philosophy was a repudiation of existing society and a call to arms for a total revolution (Calhoun *et al.* 2003). Over time, however, some of his propositions lost appeal because of the unexpected ability of the capitalists system to reinvent itself. For instance, at the time Marx was writing, he did not envisage that industrial jobs would fall in magnitude compared to the service industry as has occurred in most

western societies. Second, most working class people of the 19th century were much better off than societies that existed during mercantile and feudal periods. Third, investment regimes that exist today make it possible for workers to also be owners of capital (through shares trade, etc.) blurring the boundaries between classical social classes that Marx observed during his time. As Wright and Perroni (1977) submit, beyond the tripartite social classes that Marx observed during his time, modern Western Capitalism exhibits additional social classes such as managers and several other variants. Marx also failed to predict the potency of organized labor as a tool for advocacy towards improved working standards and political rights. Yet, even in spite of these shortcomings, the reality of today's world vindicates some of Marxian concerns. For instance, the growth in income and other form of inequality within and across societies, commodity fetishism, conspicuous consumptions of the wealthy and ruling classes all point to the fundamental stratification of society that Marx loathed.

5.3.2 Dependency Theories

Cast within the Marxist philosophical and theoretical tradition, dependency theory emerged in the l930s and became popular after World War II. Its most salient feature was its attempt to provide an alternative explanation for the global economic hierarchy of nations. The basic premise of the dependency theory was to understand the wellbeing of individual nations within the global context. Rather than looking inward, dependency theorists pointed to the role of external economic forces in shaping wellbeing of 'underdeveloped nations. They argued that underdevelopment was not an original state, but rather, an outcome of unequal economic and social relations between western (core) and southern (periphery) nations. Dependency theorist argued that Europe's development cannot be understood outside of the external destruction, brutal conquest, colonial control, and the stripping of non western

nations of their people and resources (Frank 1966). This theory focused more on inequality across regions, flows, and spaces, rather than on class and other dimension of inequality. Still, dependency theory was a politically radical perspective that saw in socialism, the only hope of overcoming the contradictions of monopoly capitalism.

It is important to note that the dependency school of thought was never a uniform doctrine. Rather, two main schools of thought are credited with the intellectual evolution of ideas around dependency theory (Peet and Hartwick 1999). First is the neo Marxist tradition largely influenced by Paul Baran, Paul Sweezy at a time when they edited the socialist or left leaning North American magazine, *Monthly Review*. This tradition was later popularized by the work of Andre Gunder Frank. The second tradition is the structuralist tradition which was spawn by Raul Prebisch and later popularized by Fernando Henrique Cardoso, Enzo Felatto, Peter Evans, Osvaldo Sunkel and Maria da Conceicao Tavares (see for instance Cardoso and Fellato 1979).

Paul Baran and Paul Sweezy's Monthly Review journal developed the theory of monopoly capitalism to describe the form of social organization that emerged in the twentieth century (see for instance Baran 1957). That historical period was characterized by large corporations that outcompeted small businesses while accumulating excess surplus profit. The consequence of mercantilism and imperialism was the unequal integration of periphery economies into the international market. Inequality among nations and economies resulted from imperialism's development because the system involved export of raw material by periphery nations and import of expensive finished products in ways that compromised the terms of trade of periphery nations. Because of the very nature of this economic interconnectedness, it was not possible for peripheral states to develop their own dynamic industrial systems. Therefore, the (re) production of inequality between advanced economies and

dependent economies developed as a by-product of the very process of capitalist growth. At the same time, capitalist economies tended to experience under consumption and stagnation but economic crises were avoided through advertising and collective consumption through public spending in the military. Baran and Sweezy considered this an irrational form of development. Instead, nations could serve themselves well by withdrawing from the world system and reconstructing a socialist society.

Andre Gunder Frank popularized the neo-Marxist dependency theory through his most well known work 'The Development of Underdevelopment' (Frank 1966). Frank argued that it was impossible to formulate adequate development theory for the people and nations that suffer from underdevelopment without an accurate understating of how past economic and social relations gave rise to the current 'underdevelopment'. Ignoring lessons from history invariably led to the assumption that the past and present states of 'underdeveloped' nations resemble earlier stages of history of the now developed nations. He rejected the dominant modernization and economics theories that explained attributed the state of nations' development to dual societies; traditional and modern. He argued that attributing underdevelopment to feudalism or traditionalism was both a historical and political mistake because that understated the role of world capitalism in destroying existing social systems in 'underdeveloped' societies. Therefore, underdevelopment is not an original state and the now developed nations were never underdeveloped, although they may have been undeveloped. Using evidence from Latin America, he argued that underdevelopment is not an original state but rather, an outcome of indiscriminate and exploitative extraction of economic and human resources from satellite (periphery) to metropole (center) societies. Peripheral nations' 'metropoles' such as Sao Paulo in Brazil or Buenos Aires in Argentina could only achieve a dependent form of industrialization

and development. Real development required the de-coupling of center and periphery economic systems in order to retain local resources and surplus within local economies. To support this idea, Frank observed that peripheral nations of Latin America such as Argentina, Brazil, Mexico and Chile grew most rapidly during World War I, the Great Depression, and during World War II, periods when economic and trade links with the core nations were weakest.

At the time, the ideas of Paul Baran, Paul Sweezy, Andre Gunder Frank, and their followers was a radical departure from the economics tradition where Walter Rostow's 1961 work on 'Stages of Economic Development' suggested that nations grew (in a path dependent way) through five distinctive stages from traditional society, preconditions for takeoff, take off, drive to maturity, and finally the age of high mass consumption. Obviously, dependency theorists ridiculed this approach because of its ahistorical nature and its failure to acknowledge past injustices and realistic possibilities for advancement of peripheral nations.

On the other hand, the structuralist dependency theory tradition, especially found in the work of Raul Prebisch and Fernando Henrique Cardoso found Andre Gunder Frank's ideas inadequate in explaining the complexity of development patterns in peripheral nations. Departing from Gunder Frank's universalism, Cardoso argued that in reality, it was possible it was possible for both development and underdevelopment to co-exist in individual nations. He observed that multinational companies invested in modern industrialization while traditional (agricultural and mining sectors) operated in technically sophisticated ways – part of advanced but dependent capitalism. Further, multinational companies had a vested interest in developing periphery nations because they were aware of the need to stimulate demand for their finished products. Between 1935 and 1943, Raul Prebisch was the Director General of Banco Central in Argentina from, a country that was most

severely hit by the depression. Prebisch felt that the inward directed development and industrialization was the most potent solution to the economic hardships within (see Prebisch 1981). This idea of import substitution development came under strong critique because it produced and reinforced existing forms of internal inequality and domination where a modern industrial complex evolved (with state subsidization) at the expense of the majority poor people. In other words, few capitalists enjoyed the benefits of public subsidies while developing a lifestyle of excess and conspicuous consumption when the majority of the population worked in crowded factories or farms for low wages. In essence, import substitution proved to be an inadequate solution to the processes that shape stratification within and between societies.

5.3.3 World Systems Theories

World Systems Theory (WST) is a radical and distinctive theoretical and epistemological approach to understanding the world, especially the deep inequalities that exist. It emerged in the 1970s as an attempt to address three existing concerns with the way social research was carried out (i) unit of analysis (ii) social temporalities, and (iii) unrealistic barriers between different social science disciplines.

WST is rooted in three intellectual and theoretical traditions namely, the French Annales School, the Marxist tradition, and the dependency school of thought. In scholarship spanning over three decades, Immanuel Wallerstein developed and expounded on the core essence of world systems theory. From the Annales School, Wallerstein was most influenced by the work of Fernand Braudel, a French historian who was critical of the way history. Braudel rejected event based or episodic history which typically took the nation states as the units of analysis. He considered this approach to writing history as 'dust' because of its tendency to focus on ephemeral phenomena, as well as its tendency to get into the eyes and blind scholars from seeing

the real underlying structures that shaped society and people's lived experiences. Second, he was critical of the manner in which existing social structure influenced the nature and content of historical accounts. In his opinion, history captured only the reality from the point of view of the wealthy while voices and experiences of the poor were largely ignored. Last, Braudel argued that a more complete understanding of the world required a long term view, as opposed to event based cross sectional analysis. This approach would make it possible to study cyclical processes within structures such as the contraction and expansion of world economies, or the changing link between civilizations and capitalism. From Marxism, Wallerstein's ideas inherited the concern with inequality and social structure, especially the concern with capitalism, accumulation, and class struggle. Last, Wallerstein's WST benefited from, and extended the core ideas of the dependency school of thought. As outlined above, the dependency school was preoccupied with illuminating the disequalizing nature of global capitalism, especially the economic and political relations between core and periphery nations. Below, I will outline how WST differs from dependency theory.

Wallerstein (2005) believes that a complete understanding of social reality requires an a-disciplinary approach. Drawing on the history of the evolution of the social sciences, especially economics, sociology, political science, and anthropology, he argues that individually, these disciplines are an obstacle, rather than an aid to our understanding of the world. Instead of delineating between the state, economy, and civil society, each of these realms provides only a partial view of the world. As such, any serious attempt to understand the world needs to draw from within and across these artificial disciplinary boundaries.

The core premise of the WST is that the social reality in which we live is larger than nation states, it is a world system. WST is fundamentally a challenge to scientists' epistemological approach to understanding the world. The world-system is

a social system that has defined boundaries, structures, member groups, rules of legitimation, and coherence. It comprises of a matrix of many institutions- states and interstate system, productive firms, households, classes, and multiple identity groups. This system is a social creation with a history that needs to be understood. Three distinctive systems exist. First is the mini system which is characterized by tribes and hunter gatherer societies. Second is a world empire that is controlled by a singular political system. Third is the world economy with no singular political or military power. The current epoch is a world economy.

Essentially, the current world economy is integrated through the market, specifically, through the logic of modern western capitalism. Capitalism, according to Wallerstein, is a system built on the desire for perpetual accumulation of capital. Within this system lies a multicultural and multi-territorial division of labor in which production of goods and services is central and necessary. The division of labor is what divides production into core, semi periphery and periphery states. Core production processes are located within core states that own advanced technologies, and generate scientific ideas through research funding within universities and think tanks. Periphery states provides cheap resources and labor from which quasi monopolies extract surplus value representing the very basis for unequal exchange and the root of stratification of nations. Semi-periphery nations such as South Korea, Brazil and India exhibit some aspects of core and periphery characteristics. This world system is in constant change since quasi monopolies often exhaust themselves. As a result, core like processes eventually become peripheral and cyclical rhythms of expansion and stagnation occur something termed the Kondratieff cycle. Even then, WST recognizes that semi periphery and periphery nations do not simply sit back and receive the narrow and short end of the stick while the core nations exploite and dominate them. On the contrary, semi-periphery states and periphery states are spaces

for resistance and in fact, some of the former have moved upwards in the global hierarchy in ways that allowed them to transform the social relations or simply to maintain their relative position within the global system (Chase-Dunn 2001).

It is important to highlight that WST argues that nation states exist within the world system primarily to regulate the functioning of a capitalist system enabling firms to consolidate profits inside and outside national boundaries. Specifically, nations create and protect intellectual property rights, levy taxes, and provide the necessary public goods that are essential for the functioning of a capitalist system. Strong states influence the openness of trade with weaker states and the contradictions of the social relations are evident in constant collapse of negotiations at several rounds of the World Trade Organization (WTO). Overall however, individual nations do not have economies. Rather, they are part of a world system.

The complex relationships of the institutions of the system are shaped by two opposite ideological themes: universalism where general rules apply to all, and racism and sexism which reflect discrimination. Racism and sexism foster stratification and polarization in ways that generate political struggles that upset the balance of the system.

Wallerstein (2005) believes that the current world system is in crisis. He points to several phenomena as evidence of a system that is under strain in ways that could eventually lead to a revolution of one sort or the other. Among the signs, the present day is characterized by declining US hegemony, increasing economic inequality, increasing cost of production, decreasing amount of natural resources as well as human resources that can be exploited, and even the current increase in military and health costs.

In conclusion world system theory informs the current research in multiple ways. First, it cautions against placing great value in nation state territorial categories

while failing to illuminate the complex interrelationships between states. Second, it emphasizes the value of long term, historical analysis. Rather than focusing only on understanding inequalities at a particular point in time and place, WST provides potent ideas on the value of learning from history. Third, the WST point to the contradictions of modern form of capitalism as the basis of existing inequalities. Fourth, WST reminds us that the complete picture of our social reality may not be understood from singular disciplinary vantage points. Rather, careful attempts at social analysis require a multi disciplinary approach that seeks to find the cleavage between perspectives from economics, sociology, demography, anthropology and political science. Last, as argued by Chase-Dunn (2001) the WST provides intellectual space within which one can imagine an alternative world outside of modern western capitalism as we know it. He argues that this 'new' system may take the form of a market socialist global democracy that is regulated by a strong and democratic global states, civil societies, and nation states. Whether this transformation will be driven by periphery, semi periphery, core states remains debatable (see Chase- Dunn 2001 for a critique of the alternative strategies).

5.3.4 Structural Functionalism

The structural functionalism school of thought is credited to seminal ideas by Emile Durkheim in the late twentieth century and early twenty first century. This approach was popularized in the United States by sociologists such as Robert Merton, Wilbert Moore, Talcott Parsons and subsequently by some of his graduate students at Harvard including Kingsley Davis and Wilbert Moore (Parsons 2003; Adler and Adler 2007). This school of thought gained much prominence in the mid 20th century, falling into disfavor around the 1970s and 1980s.

Contrary to the Marxian tradition, structural functionalism assumes that societies are problem solving entities that lean towards by order and equilibrium (Adler and Adler 2007). The basic premise is that in order to survive and thrive, each society has needs. These needs may include, but are not limited to the law, justice, health, education, goods and services etc. Each of these needs, institutions, and realms serves a particular function within society towards the pursuit of balance and equilibrium of the whole. The system itself has a way of self regulating such that over time it may replace multi-functional institutions such as the family, with more specialized ones (Parsons, 1977). For instance, two centuries ago the family assumed responsibility for a myriad functions including economic production, procreation, socialization of children, social control and others. Today, some of these functions are partially played by the family as other institutions emerged to take their place for instance day care centers, schools, prisons, law enforcement etc. In short, the structural functionalist school emphasized function, interdependence within the system, and an equilibrium that comes about through shared norms and values.

Because individuals are inherently different, and invariably apply themselves differently to certain callings, it is therefore imperative for the system to have a way of regulating rewards to each according to what they deserve. These rewards could be financial (income), or immaterial things such as status, prestige, and power. Within structural functionalist thought, social inequality is inevitable and necessary for the survival of any society. In the absence of inequality, structural functionalists would argue, division of labor would be difficult. Besides, in order to sift people across jobs and assignments of differential difficulty and prestige, a viable reward system has to be in place in order to attract the most talented to the most appropriate jobs and functions within society (Davis and Moore 1945). In other words, inequality plays a positive role because it facilitates the operation of various institutions in society.

Over time the structural functionalist school lost its appeal because of various inadequacies in its approach. With regards to inequality, functionalist theory failed to shed light on what is considered functional or non functional? Further, it fell short of describing whose priorities take precedence in defining what is functional and necessary for society? (Calhoun *et al* 2003) Moreover, its uncritical acceptance of a tendency towards equilibrium was inadequate in that it failed to challenge existing injustices. In other words, it put balance and equilibrium at the center of its theory rather than challenge the structural forces that (re) produce inequality in society. As a result, it succumbed to unrelenting attacks from theorists within the conflict perspective. The later rejected the functionalist notion that societies are efficient problem solving entities whose long standing practices and institutions represent satisfactory solutions to societal problems. Rather, societies are spaces in which groups with fundamentally antagonistic interests fight each other. Theorists in this tradition share this basic premise although they may differ on which groups and which struggles to emphasize. As shown above, Karl Marx and neo-Marxists place capitalism and social classes at the center of their ideas on structural causes of social inequality. Max Weber, on the other hand focuses on racial, ethnic and religious status groups. Dahrendorf and Collins, and to a large extent Foucalt focuses on power, authority and domination (Adler and Adler 2007). Feminists on the other hand focus on the causes, processes, and consequences of systematic gender inequality within and across societies. This critique, like other conflict theories, submits that the functionalist perspective neither accounts for the contexts in which some social and occupational positions are ascribed, nor the tendency for social reproduction in general (see Collins 1975 and 1977). The next section gives an expanded discussion of feminist perspectives on social inequality.

5.3.5 Feminist Theories

Feminist theory is distinctive from other social theories in that (i) it recognizes gender as a *system* of inequality (ii) it assumes that gender is a mutable rather than a constant feature of human societies, and (iii) feminists normatively espouse a commitment to a gender equitable society (Chafetz 2001). In other words, feminist theory seeks to explain inequality and barriers to women's social and economic justice (Rothman 2005).

Lorber (1998) states that historically there have been two waves of feminist theory. The first came about in the eighteenth and nineteenth centuries when the core focus was on suffrage rights. The current feminist tradition is dated around the period after World War II gaining prominence in the 1960s and 1970s. To date however, feminist theory is so fragmented leading Chafetz (1997) to state that there is no one form of feminist theory making the enterprise of summarizing it daunting. The quantum of feminist theories one enumerates depends on whom they read. For instance, Andersen (2000) distinguishes three main strands of feminist theory: liberal feminism, socialist feminism, and radical feminism. Yet, Lorber (1998) list no less than eleven types of feminist theories. The eleven types of feminism in Lorber's typology fall into three main categories. First is Gender Reform Feminism which comprises liberal feminism, Marxist and socialist feminism, and development feminism. Second is Gender Resistance Feminism which comprises; radical feminism, lesbian feminism, psychoanalytic feminism, and standpoint feminism. Third is Gender Rebellion Feminism which includes multiracial feminism, men's feminism, social construction feminism, and post modern feminism and queer theory. The goal of this section is not to summarize what each of these feminisms represents. Rather, I seek to capture the core values and goals of feminist theories as they relate to gender inequality.

A key starting point within feminist thought is an acknowledgement of the nature of society in which men and men co-exist. Feminist believe that generally, men and boys occupy a privileged social status within society. In fact, Chafetz (2001) submits that men have long dominated and monopolized central institutions within society from the home, community, polity, religion, education and the like. She also recognizes that not all men are the same. Rather, a small elite group of men control the policy and decision making institutions within their societies. All forms of femininity are ranked below these hegemonic masculines. Other forms of masculinity are generally ranked somewhere in between.

Feminist theory came is inspired by two main concerns. The first is substantive understandings of the structural features of society that (re) produces gender inequality. Second, feminist theory emerged as a radical critique of the way knowledge is generated. Even though I will discuss these in turn, in practice, they are interrelated as will become evident in my narrative.

Substantively, feminists are concerned with the sources of and consequences of gender inequality. Most feminists point to patriarchy as the root cause of gendered social relations within society. Patriarchy is a set of social relations within society which is hierarchical in nature and has a material basis. Patriarchy places the center of power and control on men while creating and reproducing solidarity and interdependence among men in ways that enable them to dominate women in all spheres of life (Hartmann 2001). Though it is hierarchical in form (men of different classes, race, and ethnic groups occupy different social positions), it also unites men in their shared supremacy over women. In fact, these hierarchies exist because they create a need to maintain a status quo. Also, it is possible to have small groups of elite hegemonic masculinity because the lower ranked men still occupy privileged social positions that allow them to dominate other men, and most women. Materially,

patriarchy thrives because of men's ability to control and manipulate women's labor, restricting them to specific spheres. In fact, the French radical feminist Simone de Beauvoir argued in 1949 that:

> "One is not born, but rather, becomes a woman…it is civilization as a whole that produces this creature…which is described as feminine"

Feminists believe that it is theoretically possible to have sexual division of labor that is egalitarian. However in practice the socially acceptable division of labor is one that accords relatively lower status to women (Hartmann, 2001).

Although patriarchy predates capitalism, it did not disappear during epochs of socialism. In fact, some feminists argue that is within capitalist social organization that patriarchy assumes unique forms that are intermingled with capitalism in ways that are mutually reinforcing (Chafetz 1997). To start with, women's work is divided between production and reproduction roles. The later involves unpaid child bearing and child rearing practices that is key to societal survival. Within the economic (production) sphere, however, is where the structural forms of gender inequality are most evident. Within capitalist systems, women subordination and structural forms of inequality are evidenced through for instance occupational segregation (Bielby 2001; Jacobs 2001), devaluation of women's work (England 2000) informalization of women's work and feminization of global production of goods and services (see for instance Beneria 2003). Empirical research in all these areas tries to document how much inequality exists, what drives it, and how much and in which direction the trends are moving? It is important to highlight that feminist theory does not assume that women are passive actors within a society that oppresses and dominates them. Rather, women form distinct classes of social resistance and renewal. Yet, as Chafetz (2001) correctly notes, the agency that women may express is a partial one because

dominated groups are highly constrained in the choices they make without incurring heavy penalties for their actions. She further argues that when rebellious acts result in intolerable penalties, few women will "choose" to imitate. When most or the majority of women are constrained in ways that make them be conformists, the process reinforces the very system that dominates and oppresses them.

Epistemologically, feminist theory emerged as an unapologetic rejection of Eurocentric masculinist epistemology that is generated from the standpoint of western, white, middle class male academics. The core argument here is that all knowledge about the social world is situated. In other words, knowledge reflects the social position of the knower. For instance, theories and empirical findings produced by men is partial in its scope and limited in its depth because it's derived from a privileged standpoint. The most vicious attacks at mainstream Eurocentrist epistemological approaches were targeted at extreme positivism that claimed to be value neutral and objective. Feminist theory then developed an approach which is otherwise known as a feminist standpoint which, among other things, requires the researcher to be invested socially and emotionally in the research enterprise and subjects they study. This approach called for (i) a new and elevated level of connectedness between the researcher and the researched, (ii) emotions and empathy that helps to validate the research process, and (iii) an ethic that reflects clear integrity and honesty of the researcher (Chafetz 1997: 102). Even then, feminists recognize that a woman's and feminist standpoint is no less situated and partial than a masculine one. In fact, it is possible for the oppressed to be simultaneous the oppressor. Moreover, feminist scholarship sometimes suffered from the very forms of bias evidenced in Eurocentric masculinist worldviews. In this sense, feminist theory evolved from the standpoint of middle class white women whose 'standpoints' did not represent the universal reality of white women, much less minority women and the rest of the women from other

world regions. Still, the value of feminist epistemology is that it reminds us that the key to understanding the social world resides in having multiple actors and multiple voices that raise new questions and draw from new data sources.

5.4 Demographic Transitions and Inequality

Apart from economic and sociological theories, population factors are known to affect the levels and trends in social inequality within and across nations. The pace and scope of demographic explanations for inequality is largely driven by dynamics in mortality, fertility, and migration. For the purposes of this study, I limit myself to discussing mortality and fertility transitions and their effect on inequality. Especially pertinent is the way in which fertility and mortality transitions alter not only population size, but age structure within countries. To the extent that these transitions do not occur evenly within and across population, it is important to elaborate on the consequences of fertility and mortality transitions in shaping inequality patterns within countries, especially among children.

5.4.1 Mortality Transitions

Mortality transitions (sometimes called the epidemiological transition) refer to the sustained fall in aggregate death rates within a nation. In Europe and most of the Western world, mortality transitions occurred in three general phases: the pretransitional phase of high mortality (before 1950), a transitional phase (1850-1950); and the late transition phase (1950 to present). Due to pestilence and famine, life expectancy ranged averaged between 20 and 40 years during the pretransitional phase. Epidemic and infectious diseases declined so much during the transitional phase that life expectancy rose from about 42 years in 1850 to over 65 years a century later in 1950. The decline in epidemics and infectious diseases is often attributed to increases

in economic development and subsequent improvements in living standards, institutionalized sanitary reforms and public health interventions, social reforms, as well as advances in medicine (McKeown 1965). During the late transition phase mortality continued to decline with life expectancy rising to over 70 years. However, this period is also marked with a steady increase in lifestyle and degenerative diseases.

Countries in sub-Saharan Africa, however, did not follow this prototypical trajectory of mortality transitions as observed in western countries where poor nations followed diverse routes to low mortality (see Caldwell 1986). In many countries, however, infant mortality remained high and some countries experienced major reversals in child mortality in the last half of the 20th century (Hill and Pebley 1989). Additionally, the HIV AIDS pandemic presented yet a new negative frontier in the quest for higher life expectancy in sub Saharan countries, especially those in East and Southern Africa (Bongaarts 1996; see also UNAIDS 2004, 2006 & 2008). To the extent that AIDS mortality occurs most predominantly among adults and young adults, it results in population age structures with a narrow middle reflecting an imbalance between providers and dependents.

Various socio-economic factors are widely recognized as markers of mortality inequality within countries. These include race and ethnicity, rural and urban differentials, gender, income and education, occupation, as well as marital status (Weeks 2005; Yaukey 2007). Within sub Saharan Africa, it is the rural/urban and especially the socio-economic mortality gradient that is most troubling.

5.4.2 Fertility Transitions

Fertility transition refers to the sustained change from a situation where women have many children to where they have fewer children. This transition usually, but not always, follows after the mortality transition (within the Western world France is an

exception here). In Europe fertility declines occurred around the late 19th century to the beginning of the 20th century. Fertility transition is by far the most studied demographic transition with scholars trying to establish its timing, its causes, how it occurs within the population, and its consequences.

What causes fertility to decline, and to remain low within countries? Mason (1997) identifies six explanations for the triggers of fertility transition. First, the classic demographic transition theory attributes the drop in birth rates to the changes in social life associated with the industrial revolution (Thomson 1930; Notestein 1953). Second, Lesthaeghe (1983 & 1995) argues that beyond industrialization, it is in fact the increase in individualism associated with modernization that leads people to have fewer or no children. Becker (1960) provides the neo-classical rational choice theory that suggests that individuals and families weigh the costs and benefits of having children before making a decision on conception. Easterlin and Crimmins (1985) propose a regulatory microeconomic theory that adds psychic and other social costs to financial costs of having children. Fifth the ideational theory attributes fertility declines to the diffusion of birth control practices, and a change in social norms associated with fertility (Cleland and Wilson 1987). Last, Caldwell (1982) argues that in most developing countries, fertility transitions are slow or stalled because o cultural norms that govern wealth flows between aged parents and their children. For as long as parents will depend on their children for old age support, it is the case that they will have many children in order to maximize the chances of having some who will support them later. Mason (1997) argues that none of these theories individually provides a complete explanation for specific transition within individual countries. For the most part, it takes two or even more of these theories to explain the causes of fertility transitions within countries.

While most countries in Europe started their transitions at the turn of the 20th century, women in sub Saharan African countries continued to bear a high number of children way into the mid to late 20th century. One question that remains contested is whether African countries have begun their transitions or not? After all, the average total fertility rate in sub Saharan Africa (5.1) is about twice the world average (2.5), over twice Latin America and the Caribbean and East Asia and the Pacific. Sub Saharan African fertility is even three times that observed in Europe and OECD countries.

Cohen (1998) argues that Demographic and Health Surveys that became available in the late 1980s made it possible for scientists to make reliable estimates on the presence or absence of fertility transitions in Africa. For instance earlier studies by Freedman and Blanc (1992) or latter ones (see for instance Kirk and Pillet 1998) found significant fertility in some countries with solid trends observed in Kenya, Botswana and Zimbabwe. These countries shared three key attributes including low infant mortality rates, high levels of education, and widespread state supported family planning programs (Caldwell *et al* 1992). In short, the nature, timing, causes, locus, pace, and trends of fertility transitions within individual African countries is very variable, and still contested. But, it still helps to get a snapshot of the current average fertility levels within individual African countries. Sub Saharan Africa contains countries with low average fertility levels such as Mauritius (1.6), Seychelles (2.3) and South Africa (2.5) and Botswana (2.9). Yet, it is also home to countries that some of the highest fertility levels in the world. For instance, Niger (7.1), Mali (6.5), Somalia (6.4), Uganda (6.3), Chad (6.2), and the Democratic Republic of Congo (6). In the rest of the region, women have between four and six children.

Additionally, it is important to note that once fertility transitions are underway sometimes they stall, or even reverse (Bongaarts 2006). Demographers give several

reasons why some countries fail to experience sustained fertility transitions and these include; level of economic development, tradition and religion that places a high premium on ancestry and descent, polygyny especially in West and Middle Africa, the strength and safety of numbers, poor family planning programs, or collective childrearing that is made possible by string extended family networks and in some cases economic reversals (Caldwell *et al* 1992; Eloundou-Enyegue and Cornwell, 2000). It is for these reasons that Caldwell and his colleagues argue that the fertility transition in Africa is distinctive from that witnessed in other world regions, especially in Western Europe.

So far I limited my discussion to defining fertility transitions, their causes, as well as their variations across space. This discussion is only useful in as much as it provides a rich background for the consequences of fertility transitions. In particular, this study is mostly concerned with inequality among children. Therefore, what is most pertinent for this study is (i) how fertility transitions within countries shape inequality in the burden of child rearing across the region by altering individual countries' age structure, and or (ii) how fertility transition processes within countries shape different dimensions of inequality among children?

Fertility transitions have a bearing on children's social outcomes (especially education) in as much as they affect family size (Blake 1980), family structure (McLanahan 2004), both family size and structure (Eloundou-Enyegue and Williams 2006; Eloundou-Enyegue and Stokes 2008), or the demographic dividend (Eloundou-Enyegue and Giroux, forthcoming). In order to understand how this occurs at household or at population level (in the case of the dividend theory), it is key to lay out *how* fertility transitions occur within countries. Is it the case that when fertility begins to decline, it does so evenly across all regions, ethnic groups, or across all socio-economic groups in an individual country? It turns out it's the contrary. Fertility

declines often happen in a staggered fashion, beginning among the wealthy and among the urbanites and then trickling down to the poor and to rural women (Shapiro and Tambashe 2001). Also, does fertility decline within or outside marriage? The latter suggests that it is the combination of both family size, and family structure that has broader implications on the levels and trends in socio-economic inequality among children (Eloundou-Enyegue and Williams 2006).

Resource dilution theory (Blake 1980) emphasizes that at household level, high fertility levels reduce the size of average resources available for children. The resource divergence theory argues that it is not only family size that matters, but also family structure. If more children are being born to poor, unmarried women, it implies divergence in lived experiences of children at aggregate level. Eloundou-Enyegue and Williams (2006) and Eloundou-Enyegue and Stokes (2008) highlight the need to conceptually and empirically merge the dilution and divergence theories. More recently, Eloundou-Enyegue and Giroux (forthcoming) formalize the dividend theory, the idea that fertility transitions affect inequality in as much as they alter age structure at population level. They note that sustained reduction in fertility alters age dependency, and age dependency in turn reduces real dependency. Assuming steady or increasing national resources, and proportion of resources allocated to children, as real dependency decreases, one would expect an increase in average resources available to children.

5.5 Conclusion

This chapter captures several macro-level (world systems, dependency), meso level (Kuznets, functionalist, Marxist, and feminist), as well as micro-level theories (fertility and mortality transitions). The diversity of these theories is a sign of how complex children's issues are in terms of the level of analysis from which they can be

approached, as well as the substantive focus. Good theories should be precise, parsimonious, falsifiable, and hold promise for generating reasonable predictions about the social world. Together, these theories provide a solid platform for the formulation of hypotheses on the social world of children in sub-Saharan Africa – from what is happening at continental level; gender dynamics, as well as what is happening at household level. The results chapters will explicitly articulate how well these theories account for emerging trends in inequality among children within sub Saharan Africa. Even before then, it is clear that most of these theories were not developed with the social world on children in mind. Yet, their major themes do apply, to an extent, to the world of children. Where necessary, the study will shed light on new ideas that account for the future of inequality in the region.

CHAPTER 6

METHODOLOGY

6.1 Introduction

This chapter provides a summary of the data, measures and methods used to evaluate the levels, trends, and determinants of inequality among children in sub Saharan Africa. The chapter begins with a concise description of secondary data sources used in this study. This is followed by a summary of the advantages and limitations of these data. Third, the chapter presents the standard inequality measures and their desirable properties. This is followed by a brief outline of methods used including decomposition techniques to account for drivers of inequality over time, indices of demographic concentration used to evaluate the effectiveness of informal networks in buffering inequality among children at macro-level, and finally multivariate regression models used to explain variation in fosterage prevalence and effectiveness.

6.2 Data Sources

This study uses data from three main sources; The World Bank, and the Demographic and Health Surveys. These data sources are discussed below.

6.2.1 The World Bank's World Development Indicators Online

This study uses the World Bank's World Development Indicators (WDI) to answer the following questions:

(i) How much income, and health inequality exists among children in sub Saharan Africa?

(ii) How have these levels changed over time and what factors drive the changes?

(iii) What contextual factors account for variability in fosterage prevalence and effectiveness in?

The World Bank's World Development Indicators (WDI) is a comprehensive database that captures data from 210 countries and up to 18 aggregates. WDIs are available for 35 countries in East Asia and Pacific, 57 in Europe and Central Asia, 38 in Latin America and the Caribbean, 21 in Middle East and North Africa, 3 in North America, 8 in South Asia, and up to 48 countries in sub Saharan Africa. These data cover a total of 990 variables organized within ten categories; Economic Policy and Debt (270 variables), Education (88 variables), Environment (122 variables), Financial Sector (39 variables), Health (82 variables), Infrastructure (77 variables), Labor and Social Protection (76 variables) Poverty (23 variables), Private Sector and Trade (138 variables), and Public Sector (75 variables). These data are consolidated from national sources such as national central statistical offices, from other secondary sources such as World Bank or Demographic Health Surveys, or from independent agencies such as Transparency International that collect data for specific variables. The database covers the period from 1960 to 2009. This study draws on this database for data that includes, gross domestic product per capita, annual growth in gross domestic product, total population, youth population, infant mortality rate, total fertility rate, government expenditure in education, urbanization, HIV/AIDS prevalence, literacy rates, and Gini and transparency indices.

6.2.2 Demographic and Health Surveys

This study seeks also to evaluate the effectiveness of the African extended family in buffering inequality among children, at macro level. Additionally, it aims to determine the level child mortality inequality sub Saharan Africa. In order to explore

these questions, the study draws from the Demographic and Health Surveys managed by Macro International. Demographic and Health Surveys (DHS) data are drawn from nationally representative samples of between 3000 and 30000 households in 83 developing countries including former Russian States. So far, DHS collected up to 278 surveys across these countries. In order to evaluate levels and changes in fosterage effectiveness as well as the child mortality gradient within countries, the study draws on data gathered through 79 surveys from 33 countries. Study countries include: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Comoros, Republic of Congo, the Democratic Republic of Congo, Cote d'Ivoire, Ethiopia, Gabon, Ghana, Guinea, Kenya, Lesotho, Liberia, Madagascar, Malawi, Mali, Mozambique, Namibia, Niger, Nigeria, Rwanda, Senegal, Sierra Leone, South Africa, Swaziland, Tanzania, Togo, Uganda, Zambia, and Zimbabwe. Over two thirds of these countries have two or more surveys.

In collecting data, Macro International works closely with local agencies such typically the national central statistical offices to train, sample, implement, and record the surveys. In some cases, Macro International also may work with local NGOs, Family Planning agencies, or Ministries of Health. Most surveys are implemented within five year intervals where possible. Data is collected from women of reproductive age (15-49) covering diverse issues such as child health and nutrition; child and infant mortality; maternal health including female genital mutilation; family planning; fertility and fertility preferences; malaria; socio economic variables such as education, gender and domestic violence; women empowerment; HIV AIDS prevalence, knowledge, attitudes, and behavior. Additionally, the surveys collect standard information on household characteristics such as family size, ages of household members, and relatedness of household members. These data make it possible for Macro to divide households across five distinct wealth profiles in ways

that allow analysis of socio-economic change by wealth status. Each DHS wave does not track the same individuals interviewed in previous studies. Rather, each wave takes a different sample that may or may not include households that were previously sampled

6.3 Data Quality

This study finds the World Bank and Demographic and Health Survey data desirable for a number of reasons. First, the datasets make it possible to make cross country comparisons because they cover several countries over a long period of time. The World Bank's WDIs indicators contain data for some variables going back to 1960. DHS datasets are collected at five year intervals within countries as described above. Both datasets contain data on several socio-economic variables. However, these data are also susceptible to standard problems associated with survey techniques of collecting data. These may include errors in survey design, data collection, data entry and reporting. The World Bank data is as accurate as the records gathered from national statistical agencies and the carefulness of data analysts at the Bank.

The World Bank and Macro International (DHS surveys) continue to develop and support existing institutions that collect and manage national statistical data. For instance, the General Data Dissemination System (GDDS) of the World Bank is a framework that assesses national statistical systems, encourages countries to improve the quality of official statistics, and provides a framework for evaluating data improvement needs while setting priorities for statistical development. Additionally, this framework also helps developing countries to disseminate reliable economic, financial and socio-demographic statistics. Moreover, the World Bank, in collaboration with the International Monetary Fund, developed the Data Quality Assessment Framework (DQAF), an innovative methodology that assesses data

quality and brings together best practices and internationally accepted concepts and definitions in statistics. Taken together, these institutional capabilities give me confidence to trust the economic and demographic figures I am working with as the best available estimates since they are generated through the combined intellectual expertise of the World Bank, and in country statisticians.

For both data sources, one key weakness is missing cases as some countries typically lack data for extended periods (Somalia for instance). This omission is non random and therefore may bias results because it is possible that this country is distinctive from other sub Saharan African countries for which data is available. Therefore, all my conclusions are bound by a caveat that they speak to the reality within the countries for which data is available.

Further, critics of survey data often site that survey data is weakened by errors of non-response, recall errors, as well as deliberate misinformation. But, to the extent that this study draws on data for household composition (number, age and gender of household members) as well as infant mortality, I believe that these variables are much easier to verify and respondents are less likely to misreport as they would for sensitive information such as income. It is possible, however, that some respondents may identify children in their households as their own, even if they are fostered because the African culture does not distinguish between biological and fostered children. For that reason, the numbers and trends in fosterage reported here may be considered conservative in that they reflect the lower bound on the extent of fosterage. Moreover, the study traces mortality along wealth gradients within countries. Fortunately, wealth is measured by indices of household possessions, rather than monetary units. As such, most of the items included in the derivation of indices are those that enumerators can observe, rather than ask, during an interview.

The above weaknesses notwithstanding, the richness of the World Bank, and Demographic and Health Surveys provides a solid platform for multi year, cross country comparisons that would not be possible from isolated ethnographic observations, or individually fielded surveys. To my knowledge, these two datasets are the best suited for the kind of enquiry envisaged within the current study. Besides, all forms of data collection and management are prone to some level of error. Fear of these errors should not paralyze scientific enquiry. Rather, the scientific community continues to devise ways to minimize these errors in ways that make available data more reflective of the realities of social lives experiences by people throughout the world.

6.4 Measures

This study employs four standard inequality measures; the Gini Coefficient, the Theil Index, the Squared Coefficient of Variation; and the Mean Logarithmic Deviation to examine the levels and trends in income, health, and educational inequality among children in sub Saharan Africa. Before I discuss these indices, I present below some of the desirable characteristics of inequality indices.

6.4.1 Properties of Inequality Indices

Because several measures of inequality exist, it is important to have set criteria for choosing one measure over another. The general approach for choosing a desirable inequality measure involves exploring what properties the inequality measure satisfies, or taking the axiomatic approach where an inequality measure or groups of measures are characterized by a specific set of properties (Chakravarty 1999). Inequality indices are generally expected to conform to certain characteristics that include (1) scale invariance (2) Pigou-Dalton principle of transfers (3) transitivity

(4) directionality (5) symmetry, and (6) equal additions (Allison 1978; Fossett and South 1983). Scale invariance requires that inequality remains unchanged if an individual's resource endowments are multiplied by a constant. The variance, for instance fails to satisfy this principle because if everyone's resources are doubled, the variance quadruples. Scale invariance is intuitively salient because for instance a change in the units of measurement does not represent a change in the distribution of that resource. For instance, derivations of income inequality should not depend on whether the income is measured in dollars or pounds or any other currency. Moreover, a scale invariant inequality measure makes it unnecessary to adjust for inflation. Most inequality measures can be converted into scale invariant measures by dividing by the mean or some function of the mean.

In the presence of many inequality measures that satisfy the scale invariance measure, one can check if a measure satisfies the Pigou-Dalton principle of transfers. Dalton (1920) argued that measures of inequality should increase whenever resources are transferred from the lower end of the distribution to the upper end of the distribution and vice versa. This principle is especially important when the resource under consideration has diminishing returns, for instance income. Money has positive utility but the rate of utility increase decreases as higher levels of income are reached. As a result, a transfer of income from a richer to a poorer individual yields a net utility gain.

Inequality scores must be transitive. For instance, given three groups, A, B and C where A has an advantage over B and B has an advantage over C. It should follow that A has an advantage over C and that A's advantage over C is greater than A's advantage over B. If this principle is satisfied, an inequality measure yields scores that can be ordered unambiguously.

The next principle is that of directionality. The measurement of inequality normatively implies that resource distribution is skewed towards or against some groups. Thus, a good inequality measure is one that clearly shows a point of perfect equality and one of perfect inequality. Values above the point of perfect equality should illustrate some degree of advantage of one group over another.

Further, inequality indices are easiest to interpret if they are symmetrical around zero with a lower and upper limit of negative and positive one. If this is the case, the sign of the measure reflects group advantage and the value of the measure indicates how far inequality is from its maximum or minimum. However, the lower and upper bounds of inequality indices tend to vary depending on whether one is dealing with finite or infinite populations. For infinite populations, the Gini coefficient varies between zero and 1 while the CV and Theil vary between zero and infinity. Some simple transformations can allow these indices to have an upper bound of 1. For instance to make CV have an upper bound of one you divide the CV score by CV +1. To make the Gini vary between minus and plus infinity, take its logit: (G/(1-G)). This transformation helps by removing the boundedness which limits regression estimation if the Gini scores are used as dependent variables. On the other hand, in finite populations, the Gini has an upper bound of 1-1/n; the CV has and upper bound of square root of n-1; and the Theil has an upper bound of log n. The upper bound represents a situation where one person has everything and everyone else has nothing. To allow these indices to vary between zero and 1 independently of n, simply divide the indices scores by their upper bounds.

Last, inequality indices should conform to the principle of equal additions. To ensure that an inequality measure is sensitive to relative inequality, it should show greater equality between groups when a positive constant is added to all incomes. Conversely, the measure should show higher inequality levels when a negative

constant is added to all incomes. If this principle is satisfied, one can be certain that any given absolute difference in income becomes less important as the overall level of incomes rise, and more important when the level of incomes falls.

A major limitation of full measures of inequality when applied to between group inequality is that every member within a group is pegged at the group mean. In other words, the analysis does not take into account within group inequality. In some circumstances, inequality measures are chosen on the basis of the ease of decomposition. For instance, the MLD, the Theil index, and the squared coefficient of variation are generally easier to decompose than the Gini coefficient.

6.4.2 Inequality Indices

The four inequality indices (Gini Coefficient, MLD, CV and Theil) are a function of population shares and resource shares.

$$\sum_j p_j f(r_j)$$

Where p_j indicates the population shares and r_j indicates resource ratios. And f is the functional form that is used to transform the resource ratios. The above equation is important because it captures the essence that levels of inequality are a function of not only dynamics in demographic transitions, but also those of resource upturns or downturns. The four indices can be represented as below:

$$\text{MLD} = \sum_j p_j \log(1/r_j) \qquad \text{Gini} = \sum_j p_j r_j (q_j - Q_j)$$

Theil = $\sum_j p_j r_j \log r_j$ $\quad\quad$ $CV^2 = \sum_j p_j (r_j - 1)^2$

Where:

p_j indicates the share of the total population living in country j

r_j indicates per resources in country j divided by average resources in a region and r_j can be fully represented by the formula $x_j / \sum_j p_j x_j$ and x_j is per capita resources in country j.

Because of the different functional forms of the four inequality measures given above, it is important to note that each of these inequality indices gives different sensitivity to changes in income and population distributions in different quintiles of the entire population spread

Conceptually, the Gini coefficient is a measure of inequality that is calculated as a ratio of the areas on a Lorenz curve that is derived from the Lorenz Curve (Lorenz 1905; Gini 1909 & 1921). The Lorenz curve is an illustration of observed income distributions that are compared to the state of perfect equality. Once a distribution is rank ordered the Lorenz shows what proportion of, for example, the bottom x% of households control what percentage *y*% of the total income in the population. The percentage of households is plotted on the *x*-axis, the percentage of income on the *y*-axis. The Gini coefficient is then computed by first measuring the area between the Lorenz Curve and the 45 degree equality line. For complete inequality, in which only one person controls all income, the Lorenz curve would coincide with the straight lines at the lower and right boundaries of the curve, so the Gini coefficient would be 1. The Gini coefficient is sensitive to transfers from the middle of the distribution. This is because its sensitivity to transfers depends on individuals' ranks rather than their numeric scores. In other words, after a numeric transfer in resources, the change in inequality (Gini) depends on the number of individuals with resources below and

resources above the reference individual. Income distribution often follows a shape that has fewer people at both the lower and upper ends and more in the middle. The Gini therefore is most sensitive to transfers around the modal levels of resource distribution.

The Theil's index on the other hand is derived from information theory and the concept of entropy and varies between zero and log n, where n is the total number of subgroups being compared. This index can be decomposed into between and within group components. When the country's population shares equal its resource share, the Theil index equal zero and becomes log n when there is total equality (Korzeniewicz and Moran 1997). The Theil index is sensitive to transfers or changes at the top of the distribution.

The squared coefficient of variation is a measure of dispersion about the group mean. The CV tends to be more symmetric and further expresses inequality in more relative terms, i.e., compared to the overall level of resources.

The mean logarithmic deviation is most sensitive to resource transfers from the lower to the upper end of resource distribution.. In other words, it is sensitive to transfers of resource endowments from the poor. This is in contrast with the Gini coefficient which is most sensitive to changes in endowments of in the middle of the distribution while the Theil index is most sensitive to changes or transfers from the richer end of the distribution.

6.5 Methods

This study employs three methodological approaches to access levels and determinants of inequality among children in sub Saharan Africa. These include inequality decomposition techniques, multi-level regression modeling, and derivation

of indices of demographic concentration. Below, I provide a summary of these approaches.

6.5.1 Accounting for Change in Inequality: Decomposition Techniques

To account for the changes in inequality among children over discrete time periods of choice. For this, I apply standard decomposition techniques (see Kitagawa 1955; Firebaugh and Goesling 2004; and Chevan and Sutherland 2009). I especially follow the framework proposed by Eloundou Enyegue and Rehman (2009) in apportioning the change in income inequality among children to those due to population size, population age structure, and economic transformations as shown below:

Inequality (I_R) = fn (I_G, I_K, I_P) where,

Inequality among African children in sub Saharan Africa (I_R) reflects inequality in national budgets (I_G), in total budget allocated to children (I_K), and in size of children's population reflects, (I_P). This inequality (I_R) can also be expressed as a function of resource ratios as in equation [1] above. Using the Mean Logarithmic Deviation, change in inequality among children between two time periods can be captured as:

$$\Delta \text{ MLD}_{t1-t2} \cong [\ \sum_j \bar{r}_j - (\overline{\ln r_j})\Delta w_j\ ] - [\ \sum_j \overline{(w_j r_j} - \overline{w_j})\Delta \ln(p_j)\ ] + [\ \sum_j \overline{(w_j r_j} - \overline{w_j})\Delta \ln(g_j)\ ]$$

Pop Size Effect | Age Dependency | Income Effect

$$+ [\ \sum_j \overline{(w_j r_j} - \overline{w_j})\Delta \ln(k_j)\ ]$$

Allocation Effect

Where: r_j is resource ration of country j relative to population weighted regional average, w_j is share of African child population found in country j and r_j are dependent upon the country's GDP ratio ($g_{j)}$ and public commitment ratio k_j, and child population ratio p_j. Therefore, change in income inequality among children ($\Delta I_{R,}$ or ΔMLD_{t1-t2}) is driven by four respective influences; how much SSA countries vary in their share of the regional child population (population effect), how much they vary in their child dependency ratios (Age Dependency), how much they vary in national incomes (Income effect) and finally, by how much countries increasingly differ in their allocation of income to children (Allocation Effect).

Kanbur (2006) submits that decomposition exercises are generally carried out for normative purposes of recommending policy and thus he provides a critique of the policy usefulness of inequality decomposition techniques. He notes the common pitfalls that trap analysts when they abstract from decomposition results to policy recommendations. First, he notes the intrinsic significance of groups such as racial or gender categories wherein a low between group contributions to the overall inequality does not always suggest that only policies ought to focus on within group differences. This aspect is especially important in contexts where it is normatively important for equalize outcomes and opportunities between groups as well as within groups. Second, inequality decompositions may be affected by group composition integrity or

stability. For instance, migration patterns may shift group composition that result in inaccurate derivations of decomposition scores since data is often time lagged. Moreover, resources and people tend shift between boundaries in the real world. Inequality decomposition may fail to capture the scope and depth of sharing across categories. Last, policy recommendations are typically difficult to predict the effectiveness of alternative policies given that information is often incomplete a priori. Overall, decompositions are a useful tool to apportion the sources of drivers of observed changes in inequality.

6.5.2 Wealth-Mortality Gradient: Simple linear regression

The next task is to investigate if and to what extent there is a wealth-mortality gradient within African countries. In other words, how does social class position shape the levels of child mortality within countries and how has that changed over time? This part of my analysis is made possible by DHS data that not only captures child mortality levels, but also and family wealth categories. Therefore I regress to observed levels of infant mortality on wealth quintiles using 71 DHS survey data from 35 SSA countries. This simple linear regression model is reflected by equation 1 below:

$$Y_{ij} = \alpha + \beta I_{ij} + \varepsilon \qquad [5]$$

Where: Y = infant mortality in country i at time period j, and I_{ij} = change in income along wealth profile in country i at time period j.

6.5.3 Fosterage Effectiveness: Index of Demographic Concentration

This study aims also to estimate the levels and changes in the effectiveness of African extended family systems in buffering inequality among children. In other words, to what extent can the informal African extended system be relied upon to care for, and educate children? This question requires an understanding of changes in household composition over time. DHS datasets make it possible to derive indices of concentration for fostered children. In other words, it helps to answer the question: at national level are fostered children systematically overrepresented in larger or in poorer households?

To derive the index of concentration, the DHS allows one to distinguish between total number of biological children and total number of fostered children in a household. My analysis is based on children less than 15 years of age. First, I classify all children within the sampled households into different family types based on family size and I form ten categories of family sizes 1 through 10+. Importantly, these data show only the destination of children but not their families of origin. The index of demographic concentration is based on the assumption that if informal fosterage occurred in the same manner as biological distribution, we would expect the proportion of fostered children (in respective family sizes) to mirror those of biological children. Because these data show destination of fostered children, it makes it possible to calculate indices of demographic concentration as:

$$IC = (O_i - E_i) * \ln(r_i)$$

Where:

IC=index of concentration; i=index group (family size in the case of demographic concentration); E_i= percentage of children expected to be fostered into the group, if children were distributed proportionately according to group importance; Specifically, E is the percentage of biological children in this SES (sibsize) group, relative to all biological children; O_i=percentage of children actually fostered in this group (out of all fostered children); r_i= SES (or sibsize) ratio; that is, group SES divided by average SES. This formula is such that an over-representation of fostered children into smaller sized families makes a positive contribution while an over representation into larger families makes a negative contribution. The index of concentration takes values on either side of zero. A value of zero reflects no buffering effect from fosterage while negative values suggest that informal fosterage systems are reinforcing inequality among children.

6.5.3 Fosterage Prevalence and Effectiveness: Multivariate Regression Modeling

What contextual factors explain the variation in child fosterage rates and child fosterage effectiveness across countries? Theoretically, I expect that demographic, economic, cultural and geographic factors could explain observed differences. My dependent variables are; proportion of 10-14 year olds living with neither of their biological parents, and index of demographic concentration. My explanatory variables are captured in Tables 6.1 and 6.2. My analysis begins from the standpoint that observed rates of fosterage in a particular country in a given year are a result of decision taken by families in previous years given their lived economic and social experiences at that time. As such, I lag the explanatory variables by taking the average figure of the last five years preceding each DHS survey in each respective

year. Given that the DHS surveys are collected in different years, building this dataset required slow and careful iterations for each country, and for each survey year.

TABLE 6.1. Correlates of Fosterage Prevalence

Variables	Explanation	Expected Effect	
Demographic	Youth Pop	Population ages 0-14 (% of total)	Positive
	HIV	Prevalence of HIV, total (% of population ages 15-49)	Negative
Cultural	Urbanization	Urban population (% of total)	Negative
	Literacy	Literacy rate, adult total (% of people ages 15 and above)	Negative
Geography	East	Country is located in East Africa	Reference Group
	West	Country is located in West Africa	Unknown
	Central	Country is located in Central Africa	Unknown
	South	Country is located in Southern Africa	Unknown
Economic	lnGDPpc	Natural logarithm of gross domestic product per capita calibrated at purchasing power parity	Negative/ Positive
	GDP Growth	GDP per capita growth (annual %)	Positive
Inequality	Gini Coefficient	Gini Index	Negative/ Positive
Democracy	Transparency	CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high)	Positive

TABLE 6.2. Correlates of Fosterage Effectiveness and Theoretical Expectations

Variables		Explanation	Expected Effect
Demographic	TFR or	Fertility rate, total (births per woman)	Negative
	Youth Pop	Population ages 0-14 (% of total)	Negative
	HIV	Prevalence of HIV, total (% of population ages 15-49)	Negative
Geography	East	Country is located in East Africa	Reference Group
	West	Country is located in West Africa	Unknown
	Central	Country is located in Central Africa	Unknown
	South	Country is located in Southern Africa	Unknown
Economic	lnGDPpc PPP	Natural logarithm of gross domestic product per capita calibrated at purchasing power parity	Negative
	GDP Growth	GDP per capita growth (annual %)	Positive
	Education Expenditure	Education expenditure (% of GNI)	Positive
	Literacy	Literacy rate, adult total (% of people ages 15 and above)	Negative
Inequality	Gini Coefficient	Gini Index	Negative/ Positive
Democracy	Transparency	CPIA transparency, accountability, and corruption in the public sector rating (1=low to 6=high)	Positive

6.6 Conclusion

This chapter provides a concise summary of the study methodology. It discusses the sources and limitations of World Bank and DHS datasets used for this study. In addition, it lays out methodological approaches used to study inequality among children in sub Saharan Africa. These include inequality decomposition, indices of demographic concentration, and multivariate regression modeling techniques. These methodological approaches push the frontiers of inquiry into inequality dynamics among children in ways that improve our understanding while providing a platform for developing newer theoretical propositions.

CHAPTER 7

FINDINGS

Inequality Trends Among Children in sub Saharan Africa (1971-2007)

7.1 Introduction

Inequality, especially inequality among children across sub Saharan African (SSA) countries is both understudied and underappreciated. This omission is rather surprising given ongoing socio-economic and cultural changes that might suggest possible divergence in social outcomes for children. For instance, economic booms spurred by forest, mineral and oil resources in some countries are equally matched with significant economic reversals or civic unrest in others. Apart from differences in economic performance, SSA countries vary in their level of financial commitment to child. Moreover, even though they have begun their demographic transitions, the rate and pace differs significantly across (Bongaarts 2006) and within countries (Shapiro and Tambashe 2001). On the one hand, uneven fertility transitions *across* countries spur inequality as they change relative age structures and concentration of children cohorts and young adults in particular countries. On the other hand, uneven fertility transitions *within* countries could result in poor families carrying the largest child rearing burden as middle class women precipitously reduce their fertility and concentrate their resources on fewer children (Blake 1981, McLanahan 2004). This chapter seeks to determine how these economic and demographic factors shape patterns of income and health inequality among children.

I ask three interrelated questions: (i) what are the levels and trends in educational resource and health inequality among Africa children, (ii) how do trends

in resource inequality among children compare to those among adults, and (iii) what factors account for the observed changes in resource inequality over time?

I use data from Penn World Tables, World Development Indicators, and Demographic and Health surveys to estimate standard measures of inequality (Gini coefficient, Theil index, Coefficient of variation, and Mean Logarithmic Deviation). Further, I apply decomposition techniques to account for the factors that drive changes in inequality over time. Results show that educational resource inequality among African children increased steadily between 1971 and 1999 before gradually declining but remaining high and stable thereafter (Gini of 0.59 in 2007). For the entire study period, levels of resource inequality among children were over double those among adults. Nigeria and South Africa have inordinately large effects on observed educational resource inequality trends. Child mortality inequality across countries remains low and relatively unchanged over the study period. But, if one examines mortality inequality within countries, socio-economic status is a consistent marker of child survival. Age structure, size of economy, and allocation to children (education) drive changes in inequality compared to variation in population size per se. Overall, this study provides an alternative lens through which to evaluate the welfare of African children at a time of globalization and standardization of welfare benchmarks.

The rest of the chapter is organized as follows. First, I briefly discuss the relevance of investigating inter-country inequality among children. Second, I discuss the previous studies on inequality among children and illuminate the nature and locus of existing knowledge gaps. This is followed by a description of data sources and their limitations. Fourth, I outline inequality measures and decomposition techniques employed in this study. Last, study findings are presented followed by a discussion and conclusion.

7.2 Relevance

This study is timely and relevant for several reasons. First, by placing inequality at the center of scientific inquiry, this study enriches our understanding of the wellbeing of African children beyond routine preoccupation with poverty. We know that eliminating poverty does not suggest an equalization of economic opportunity nor does it signal a convergence in social outcomes (Dollar and Kraay 2002; Ravallion 2005; Edward 2006). Moreover, development literature, including research on individual happiness, acknowledges the disjuncture between absolute and relative deprivation (Graham and Felton 2006; Firebaugh and Schroeder 2009). As such, it is important to recognize that the discourse on African children's welfare remains incomplete if one does not acknowledge the coexistence of poverty, and inequality.

Second, SSA is rearing 17% of the world's children even though it controls only 2.3% of the global income resources. Given recent economic up and downturns within countries in SSA countries, it is important to evaluate how they impacted social and economic resources available to children. Recognizing the diversity of experiences of countries in terms of democracy, civil wars, and new economic resources from forestry, mining and agriculture,[20] it is unclear how all these translate into substantive investments and social outcomes for children. Besides, I focus on income because resources are an instrumental means to a social end (Seers 1972, Sen 1999) and on infant mortality because the wealth of Africa is closely tied to the health and survival of its people (Bloom and Canning 2004).

Third, demographic transitions underway in SSA are uneven both within and across countries. For instance, Shapiro and Tambashe (2001) find evidence that

[20]The continent has experienced civil wars in Liberia, Angola, Uganda, the Democratic Republic of Congo, Sudan, and Niger; yet at the same time, new mineral resources such as oil (Ghana, Angola, and Gabon) and diamonds (Botswana and Zimbabwe) continue to redefine economic trajectories.

fertility transition are occurring in a staggered fashion whereby middle class women reduce their fertility at a faster rate than their poorer counterparts. The implications of uneven fertility are two-fold. Within countries, uneven fertility transitions result in placing the greatest child-rearing burden poor families who do not have sufficient economic resources to raise them. Uneven fertility transitions between countries suggest a divergence in child dependency ratios. In essence, it is likely that vanguard countries (such as Kenya, Zimbabwe, Ghana, South Africa, Mauritius, and Botswana) where fertility has now declined by about 30% now carry a lower relative share of the continent's children while countries where fertility transitions stalled (like Congo, Niger) will carry a heavier relative child rearing burden in future. In short, if one assumes unchanging distribution of income across countries, then uneven fertility transitions will work to increase inequality among children through its effect on relative child dependency ratios. In the absence of dwindling international donor support, this effect will be even greater if the countries with unchanging fertility rates tend to be countries that also have limited economic resources.

Fourth, understanding inequality patterns among children is extrinsically important in its own right. Yet, as Eloundou-Enyegue and Rehman (2009) argue, inequality among children is also important because it foretells future patterns of inequality because the momentum for inequality among tomorrow's adults is built in within the current cohorts of children. Inequality among children, they submit, is like an "entry point in the process of stratification".

Fifth, while it is important to understand the levels and trends in inequality among children, it is equally imperative to evaluate how these compare with those of other demographic groups such as adults. Similarly, given that global inequality studies always single out SSA as a distinctive continent, it is helpful to quantify to

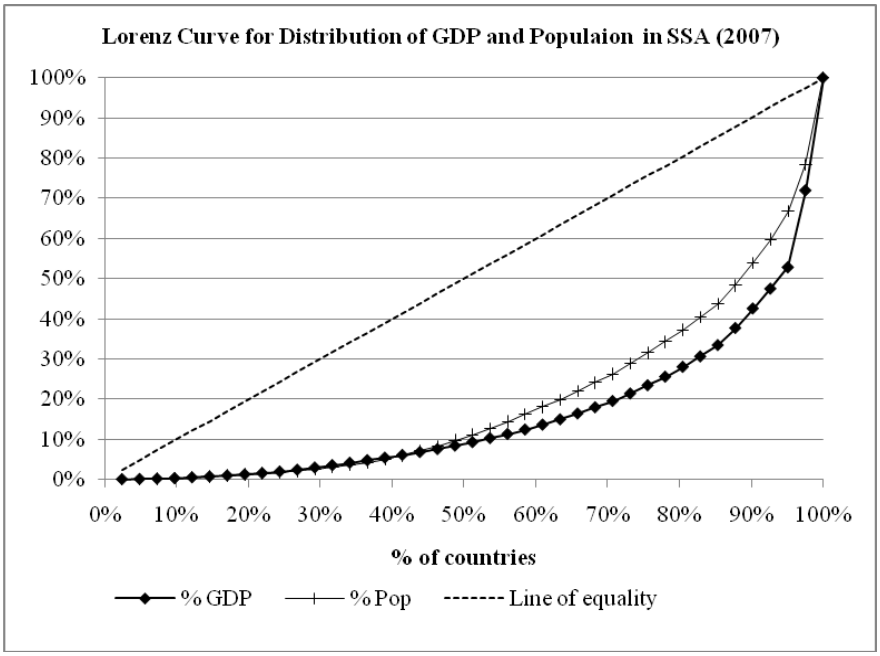
what extent the continent itself differs and how children's wellbeing varies across the sub region.

Overall, inequality among children in SSA assumes greater significance because divergence is occurring in a context where basic needs are not yet met. Therefore, not only are children growing up poor, they also are witnessing unprecedented levels of inequality in the distribution of material and other social resources. At a time when the world has standardized expectations for children's welfare including their rights to education (UN 1948, UN 1960; UN 1989, UN 2000), it is important to continually check how well political commitment is matched by substantive progress, especially how the social progress equalizes the playing field for children across countries.

7.3 Current Inequality

I begin by describing the current inequalities in childrearing across SSA countries. Figure 7.1 shows Lorenz curves for the distribution of the region's overall population and gross domestic product (Panel A), and for the distribution of the regions' children and resources available to children as at 2007, the most recent year for which data was available (Panel B). These curves are derived from ranking countries by their population sizes (*x*-axis) and then plotting the *y*-axis to represent the share of the region's population found in the bottom 5%, 10% etc. The same is done for regional income. Similarly, countries are ranked by the size of their economies (*x*-axis) and the *y*-axis plots the proportion of resources found in say the bottom 5% or 10% of countries. The core idea is that if there is perfect equality, all observations will lay on the diagonal, that is, 5% of the countries control 5% of the population or resources respectively.

Panel A



Panel B

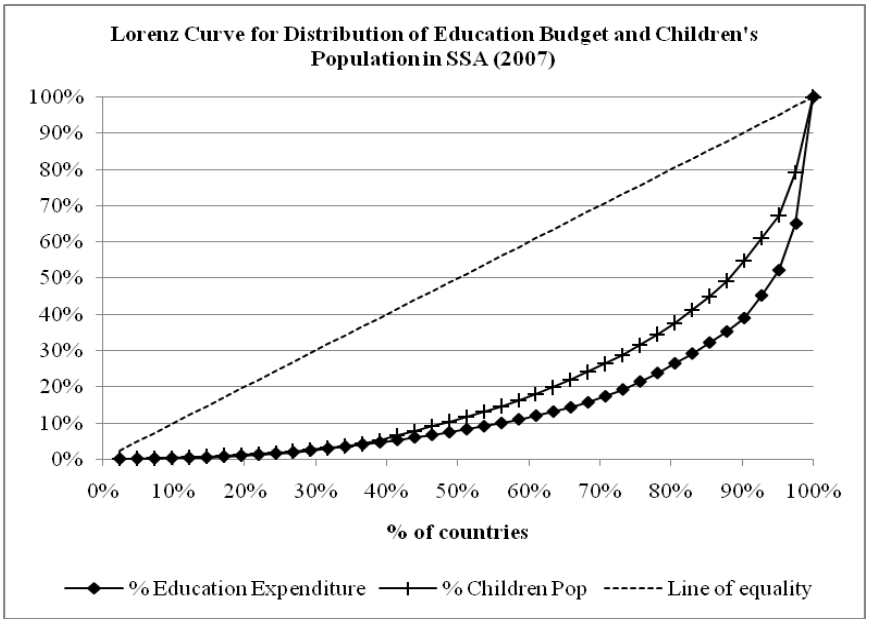


FIGURE 7. 1. Lorenz Curves for the distribution of sub Saharan African Population and GDP (Panel A) and the distribution of sub Saharan African children, and resources for children (Panel B)

The magnitude of inequality (which is also the basis for the derivation of the Gini index) equals the area between the Lorenz curve and the line of equality. Clearly, the Lorenz curves in Figure 1 depart significantly from the point of equality both for the overall population (Panel A) and for the children (Panel B). For instance, the bottom half (50%) of sub Saharan African countries contain 10% of the region's population and control only 8% of the region's income or GDP. Similarly, the burden of child rearing is not evenly spread across the African continent, neither are resources located in countries with proportionate child population sizes. Rather, the bottom 50% of countries contains 10% of the region's children and control only 7% of the region's resources allocated to children.

Another way to examine how the burden of child rearing is spread across sub Saharan Africa is to look at individual countries, and what proportion of the region's children are located therein compared to the proportion of the region's resources (education budgets) available in that respective country. Appendix A1 captures how the 41 study countries rank in terms of the size of the children's population as at 2007. Column 4 of this table ranks the region's countries according to their resource ratios – how an index country's resources per child differ from the region's average. A quick look at this table reveals striking dissimilarities. For instance, Nigeria contains a fifth of the region's child population yet its resource ratio (0.18) falls way below the region's population weighted average. Other countries that carry a heavier load of the region's children include Ethiopia (11.7%), Kenya (6.4%), Uganda (6.2%), South Africa (5.6%), and Madagascar (4.3%). Of these countries, Kenya's resource ratio is just over the region's average (1.1) and therefore it could work as a useful benchmark against which we can measure the performance of other countries. Unsurprisingly, South Africa spends over six times resources per each child compared to the region's average. Other countries that control fairly high resource ratios include; Mauritius

(10.7), Botswana (7.5), Swaziland (4.9), Cape Verde (4.0) Namibia (3.3), Lesotho (2.7), Gabon (2.4), Angola (1.3). On the other hand some countries with a heavy child rearing burden have to educate their children using fairly modest resources. For instance, the resource ratios for Ethiopia (0.53), Uganda (0.38), and Madagascar (0.16) fall way below the region's average. Conversely, other than South Africa and Angola, most of the countries with high resource ratios are raising a very small proportion of the sub continent's children; Mauritius (0.1%), Botswana (0.2%), Swaziland (0.1%), Cape Verde (0.07%), Namibia (0.3%), Lesotho (0.3%), Gabon, (0.2%).

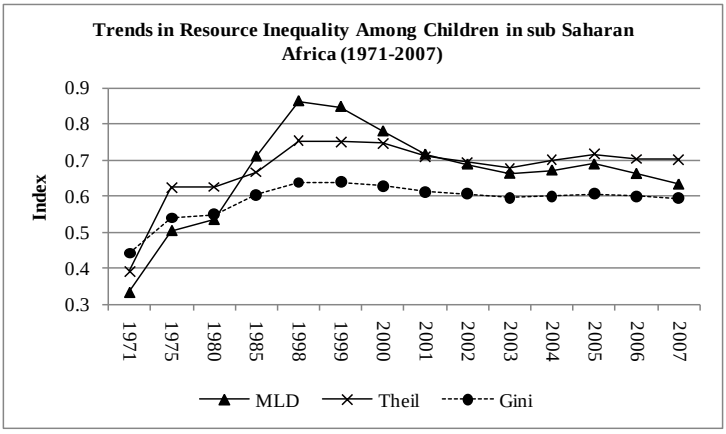
Overall, the sub continent's children are concentrated in just a handful of countries. Specifically, over 55% of African children are located in just six countries (Nigeria, Ethiopia, Kenya, Uganda, South Africa, and Madagascar) out of the 41 in the study sample. On the contrary, almost 16 countries contain less than 1% each of the continent's children (Togo, The Republic of Congo, Liberia, Central African Republic, Mauritania, Namibia, Lesotho, Guinea Bissau, Gabon, Botswana, The Gambia, Swaziland, Mauritius, Comoros, Equatorial Guinea, and Cape Verde). Another ten countries each contain between 1 to 2% of the sub continent's children (Zimbabwe, Mali, Burkina Faso, Senegal, Burundi, Benin, Niger, Sierra Leone, Chad, and Guinea). Another handful of countries have between 2 and less than 4% each of the sub continent's children (Mozambique, Sudan, Ghana, Cameroon, Malawi, Zambia, Angola, Rwanda, and Cote d'Ivoire). Therefore, it is clear that the child population is very unevenly distributed and so are economic resources. This fact is further revealed by summary measures of inequality that I present below.

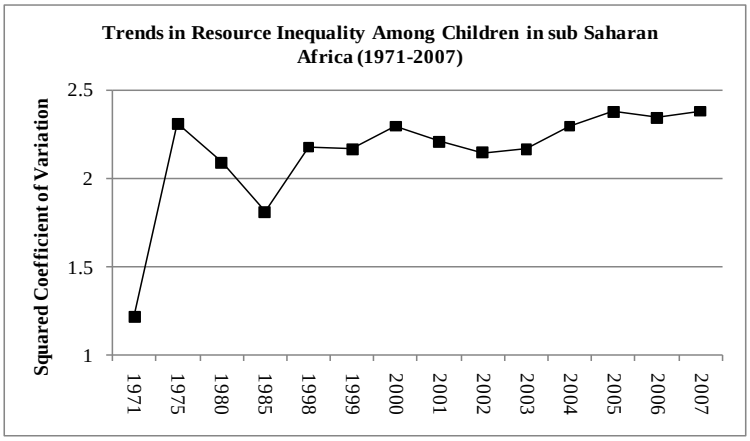
7.4 Levels and Trends in Resource Inequality

This section addresses the two interrelated questions: how much resource inequality exists among African children, and have inequality levels changed over

time? Figure 7.2 (top panel) shows the levels and trends in resource inequality. As at 2007, resource inequality among children was (0.63) for MLD, (0.7) for the Theil Index, (0.59) for the Gini Coefficient. The squared coefficient of variation stood at (2.37) (Figure 7.2 middle panel). However, if one excludes South Africa from the sample, the MLD for 2007 drops by 53% to (0.41), if one excludes Nigeria inequality drops by 16% (0.54), and finally if both South Africa and Nigeria are omitted, resource inequality among children located in the remaining 39 countries declines from 0.63 to 0.32 [Figure 7.2 lower Panel]. In other words, I still observe relatively high levels of educational resource inequality among African children even after accounting for the influences of South Africa (large child population and immense resources), or Nigeria (20% of the region's child population and limited resources).

How did income inequality among African children change over time? For the overall period (1971 to 2007), the MLD increased by 89% from 0.33 to 0.63; the Gini coefficient increased by 34% from 0.44 to 0.59, the Theil index increased by 79% from about 0.39 to about 0.70 and finally the squared coefficient of variation increased from about 1.22 to about 2.4%. Also, the data reveals a steep increase in inequality across all indices between 1971 and about the turn of the century (1999). The MLD more than doubled from its 1971 level of 0.33 to about 0.84 in 1999. In the same period, the Theil index also increased from 0.39 to 0.75, the Gini coefficient increased from 0.44 to 0.64 while the squared coefficient of Variation increased from 1.22 to 2.16. It is unclear if this sharp increase is real or could be a data artifact? Even if one takes the latter explanation, and considers inequality for the recent period (between 2000 and 2007) for which one can have higher comfort levels with data quality, one still observes very high levels of inequality in the distribution of resources among Africa children





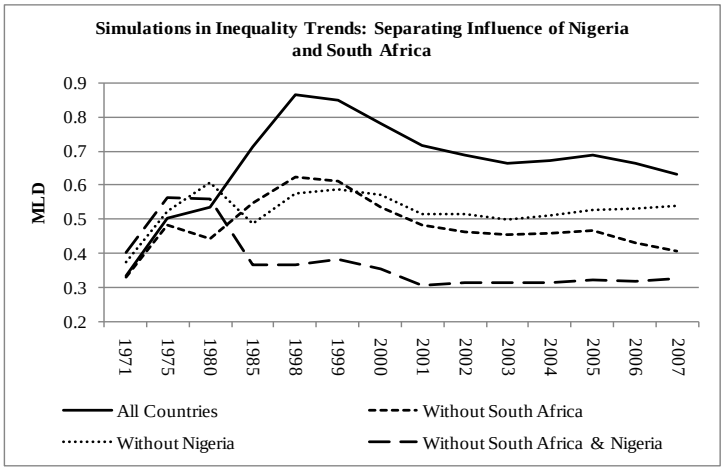


FIGURE 7. 2. Trends in Resource Inequality Among Children (1971-2007)

7.5. Children versus Adult Trends

How do observed inequality trends among children compare with adult trends? The top panel of Figure 7.3 shows the absolute values of resource inequality among the whole sub Saharan African population compared to the trends for children. The bottom panel shows the ratio of adult versus children's population. The data indicates that regardless of time period, resource inequality among children is about double the level observed for the rest of the population. Clearly, this evidence reflects how children's experiences are distinctive to those of adults and therefore it would be erroneous to draw inferences on inequality patterns without looking at children as a subgroup.

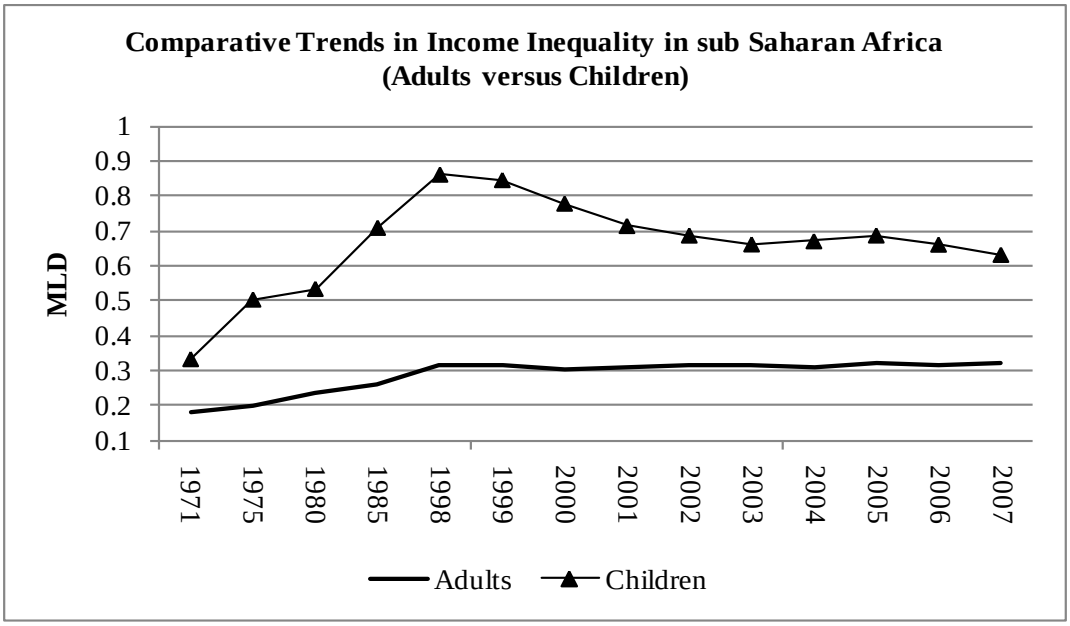


FIGURE 7.3. Comparing Adult and Children's Trends in Resource Inequality (1971-2007)

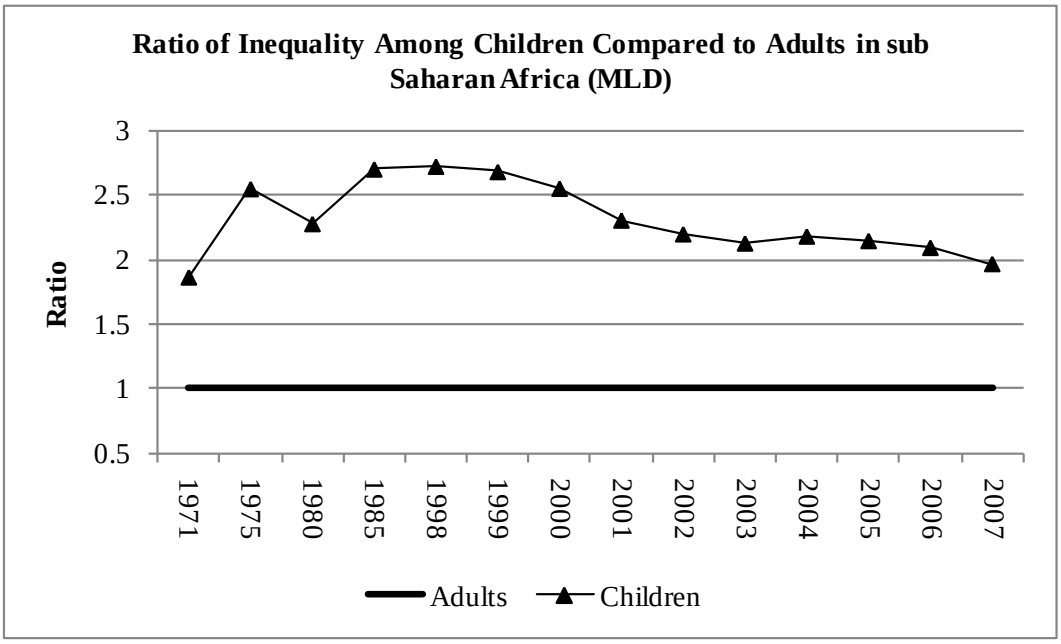


Figure 7.3 Continued

7.6. Drivers of Inequality

What factors drive the observed changes in inequality? I apply decomposition techniques to apportion the change in inequality into the influences changes in the child population size, child dependency ratios, size of each nation's GDP, and also to changes in the proportion of the GDP that is allocated to children. First, we know that sub Saharan African economies widely differ in size, as well as in the share of the sub continent's children located therein. What needs further elaboration is how nations differ in terms of what proportion of their GDP they spend on children's education. Unsurprisingly, the data shows a clear gradient that ranges from the countries that spend high proportions (>5%) of their income on education (Lesotho, The Sudan, Botswana, Namibia, Swaziland, and Kenya) and those that spend low proportions -- less than 2% (Guinea, Central African Republic, Chad, Nigeria, and Equatorial Guinea). The rest of the sub continent lies between 2 and 5% in terms of average educational allocations in the last decade (Figure 7.4).

What is profound, however, is the extent to which countries that are almost identical in the size of their economies, and the burden of child rearing may differ significantly in how much of their income is spent on children (Appendix A2). If one ranks African countries in order of the size of their economies, their child populations, and then their budgetary allocation to children, interesting similarities and striking differences can be observed. Take for instance Burkina Faso and Malawi. These have similar sized economies, child populations (6.7 million), and dedicate similar

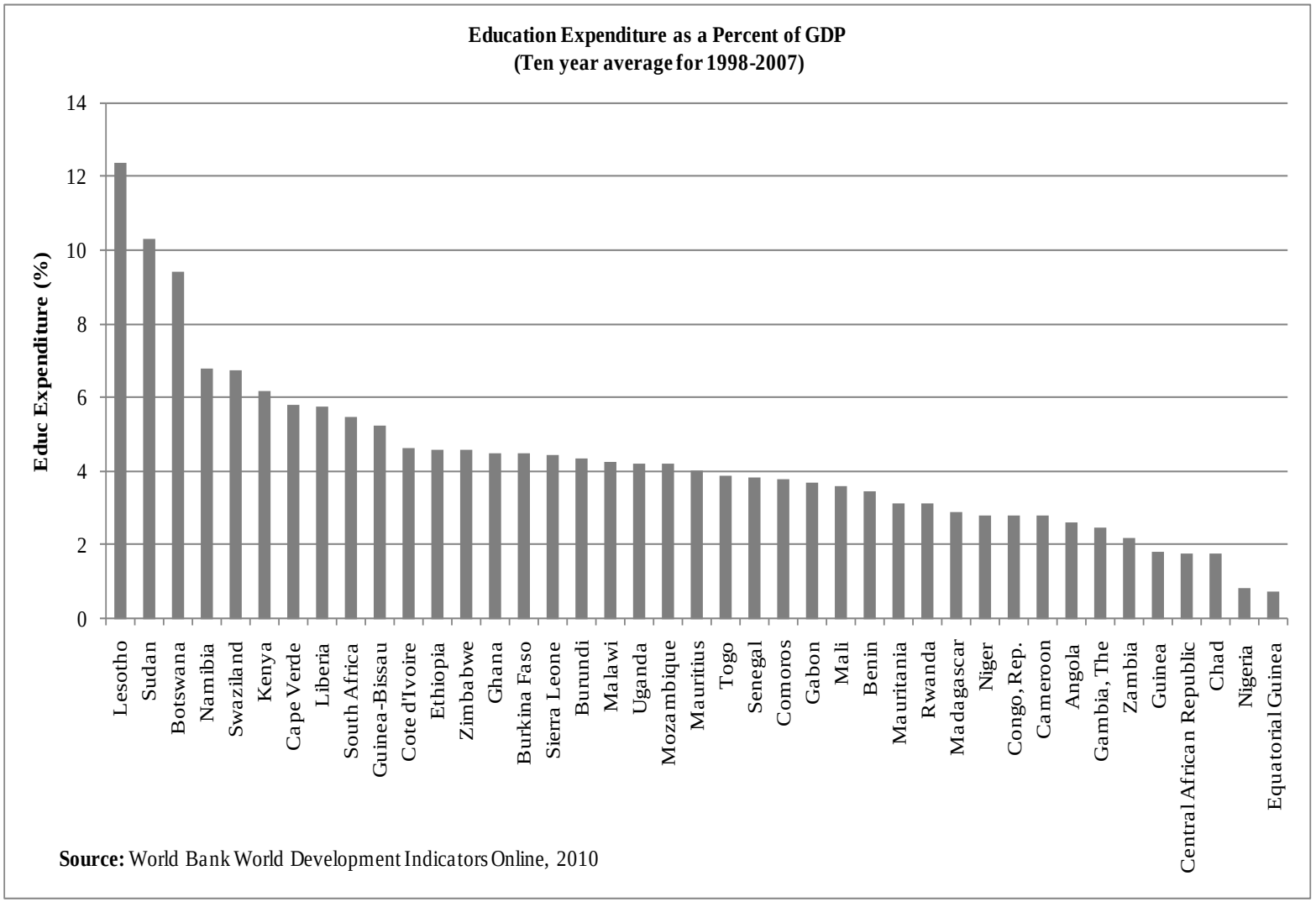


FIGURE 7.4. Comparative Education Expenditures in sub Saharan Africa (Average for 1998-2007)

proportion of their national budgets to children (4.5% and 4.3% respectively). Yet, the reverse is true if one focuses on a different set of countries like Zimbabwe and Chad. Both countries have similar incomes, and similar child populations (about 5 million), but, Zimbabwe allocates 4.6% of its GDP to education compared to Chad (1.7). Assuming that these sets of countries are similar in all other dimensions, one would expect some level of divergence in the experiences of children. The question then becomes -- To what extent does the economic and or demographic differentials drive the observed changes in inequality among African children?

Table 7.1 shows results for inequality (MLD) decomposition for four distinct time periods: 1971-2007, 1980-1998; 1998-2003, and for 1980-2007. But, I limit my description for the overall period from 1971 to 2007. It appears that the increase in resource inequality among children was largely driven by both demographic and economic factors although the latter had a larger influence. Differential economic growth accounted for (152%) while changes in budgetary allocation to children accounted for (-129%) although these two worked in opposite directions. While economic growth tended to increase inequality, changes in budgetary allocation to children tended to reduce inequality. A significant component of the increase (103%) in inequality came about because of the changes in the distribution of child rearing across the continent while differentials in population size worked to reduce levels of inequality (-26%).

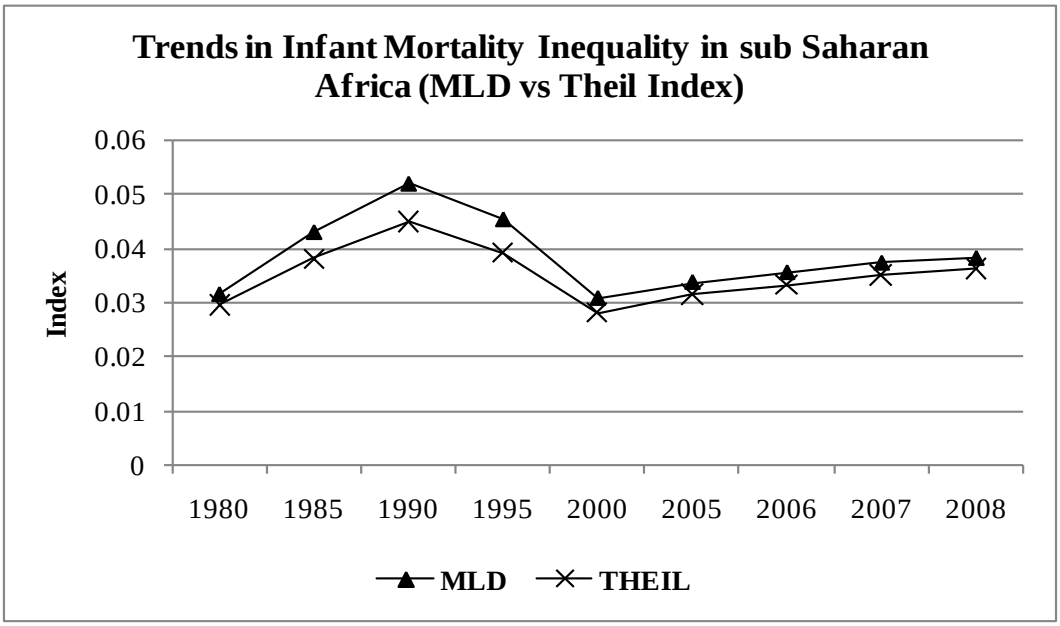
TABLE 7.1. Decomposition Results for the Drivers of Resource Inequality Increase Among African Children

Period	Population Size	Age Structure	GDP per Capita	Allocation to Education	Total
1971-2007	-0.036	0.141	0.208	-0.177	0.137
	[-26%]	**[103%]**	**[152%]**	**[-129%]**	
1980-1998	-0.017	0.086	0.165	-0.073	0.160
	[-11%]	**[53%]**	**[103%]**	[9%]	
1998-2003	-0.007	0.039	-0.079	-0.126	-0.172
	[4%]	[-22%]	[46%]	[-30%]	
1980-2007	-0.035	0.164	0.161	-0.248	0.042
	[-82%]	**[387%]**	**[382%]**	**[-588%]**	

The above section discussed the levels, trends and drivers of resource inequality among children. To the extent that the sub continent continues to witness divergence in the amount of resources available to children, to what extent do these mirror patterns of other social outcomes such as health. This is the focus of the next section.

7.7. Trends in Health Inequality

The evidence shows very low levels of inequality in child mortality across African countries and this result is robust across three measures of inequality; the Theil index, the coefficient of variation, and the MLD (Figure 7.5).



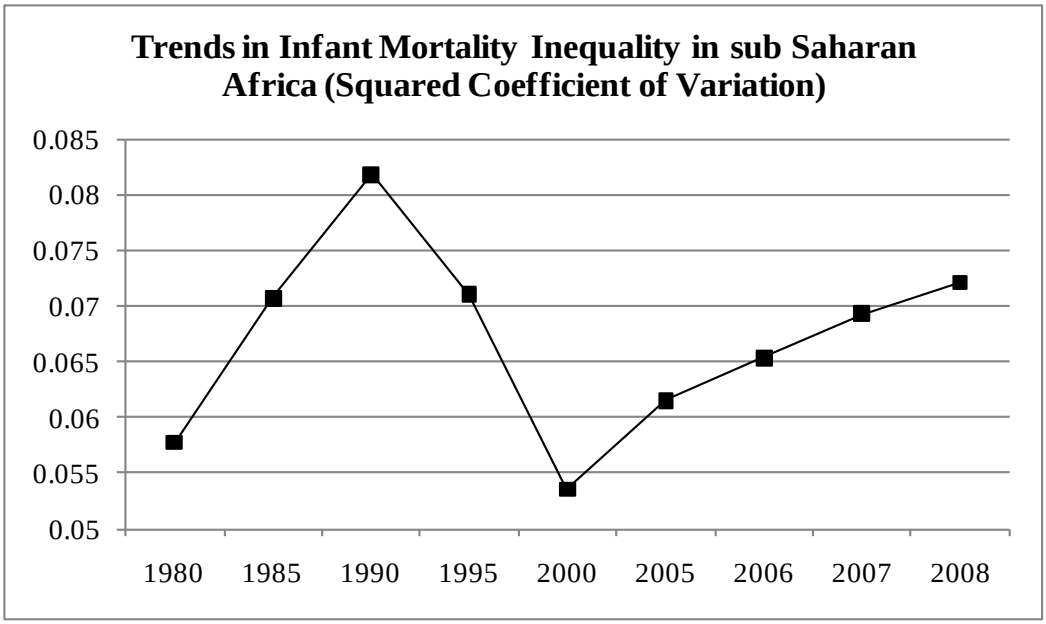


FIGURE 7. 5. Trends in Mortality Inequality (1980-2008)

While the evidence on inter country mortality inequality shows a high level of convergence, further analysis of mortality patterns within countries reflects an opposite trend – divergence.

I use DHS data (71 surveys from 35 countries) to examine the extent to which deaths of children between age 1 and age 5 depend on household wealth. For each country, DHSs classifies households into five distinct wealth categories. I therefore estimate simple linear regression models with IMR as the dependent variable and wealth quintile as the explanatory variable. For the majority of the countries and surveys, the evidence reveals a very strong positive linear relationship between child mortality and household wealth (see the β coefficients for the wealth quintiles in Table 7.2). For instance, countries that reveal the strongest positive[21] linear wealth-mortality gradient include Senegal 1997, 2005 and 2008; Ghana 1993 & 2008; Cameroon 1998 & 2004; South Africa 1998; Cote D'Ivoire 1994; Mozambique 1997; Togo 1998; Guinea 1998; Nigeria 2008; and Uganda 2000-01.

[21] Adjusted R-Squared Values > 0.90

TABLE 7.2. Mortality Gradient Along SES Lines within Countries

Country and Survey Year	α child mortality	β child mortality	R^2 adj child mortality
Benin 2001	108.84	-12.18	0.84
Benin 1996	123.78	-12.08	0.63
Burkina Faso 2003	140.7	-10.72	0.51
Burkina Faso 1998/99	171.18	-14.84	0.61
Cameroon 2004	111.07	-14.18	0.97
Cameroon 1998	117.01	-15.83	0.94
Cameroon 1991	120.37	-17.07	0.94
CAR 1994-5	81.49	-6.21	0.78
Chad 2004	80.36	5.98	0.16
Comoros 1996	46.86	-5.56	0.69
Congo Democratic 2007	93.84	-9.2	0.79
Cote d'Ivoire 1998-99	115.12	-16.08	0.85
Cote d'Ivoire 1994	97.82	-11.7	0.95
Eritrea 2002	72.6	-7.22	0.39
Eritrea 1995	110.46	-9.48	0.13
Ethiopia 2005	68.46	-4.44	0.09
Gabon 2000	47.96	-5.42	0.80
Ghana 2008	53.85	-7.61	0.94
Ghana 2003	68.77	-7.47	0.58
Ghana 1998	80.06	-10.08	0.83
Ghana 1993	107.27	-15.35	0.92
Guinea 2005	128.46	-14.62	0.77
Guinea 1999	143.66	-15.66	0.98
Kenya 2003	59.13	-6.73	0.60
Kenya 1998	57.74	-7.3	0.76
Kenya 1993	52.67	-6.85	0.88
Madagascar 2003-4	76.32	-11.16	0.85
Madagascar 1997	99.01	-9.83	0.83
Malawi 2004	96.83	-8.61	0.76
Malawi 2000	127.94	-9.06	0.72
Malawi 1992	151.62	-10.84	0.27
Mali 2006	161.67	-16.39	0.33
Mali 2001	171.26	-15.42	0.28
Mali 1995-6	52.67	-6.85	0.88
Mauritania 2000-01	56.4	-6.34	0.21

TABLE 7.2. (Continued)

Country and Survey Year	α child mortality	β child mortality	R^2 adj child mortality
Mozambique 2003	76.91	-5.33	0
Mozambique 1997	121.87	-13.95	0.95
Namibia 2006-7	38.16	-5.84	0.77
Namibia 2000	31.89	-3.51	0.05
Namibia 1992	51.52	-6.34	0.73
Niger 1998	240.65	-17.03	0.02
Nigeria 2008	164.69	-26.17	0.98
Nigeria 2003	205.67	-30.63	0.67
Nigeria 1990	184.3	-25.78	0.98
Rwanda 2005	122.1	-11.44	0.61
Rwanda 2000	135.81	-11.47	0.86
Senegal 2008-09	81.41	-14.57	0.96
Senegal 2005	125.5	-20.22	0.99
Senegal 1997	138.99	-21.91	0.90
Sierra Leone 2008	70.99	-2.47	0.01
South Africa 1998	32.26	-5.94	0.95
Swaziland 2006-07	39.86	-2.88	0.12
Tanzania 2004-5	205.67	-30.63	0.67
Tanzania 1996	73.22	-5.92	0.39
Togo 1998	109.94	-14.66	0.97
Uganda 2000-01	108.67	-11.83	0.99
Zambia 1996	116.44	-7.22	0.52
Zimbabwe 1999	47.09	-5.01	0.67
Zimbabwe 1994	40.51	-4.97	0.47
min	31.89	-30.63	0.00
max	240.65	5.98	0.99
avg	101.99	-11.15	0.65
stdev	47.60	6.80	0.31

On the other hand, a few of the country surveys show either a weak relationship[22] between mortality and wealth (see for instance Mozambique 2003;

[22] Adjusted R-Squared Values < 0.20

Sierra Leonne 2008; Niger 1998; Namibia 2000; Ethiopia 2005; Swaziland 2006/07; Eritrea 1995 and Chad 2004). Finally, a handful of countries show a curvilinear relationship between child mortality and household wealth. These include Burkina Faso 1993; Chad 1996/97; Congo Brazzaville 2005; Ethiopia 2000; Lesotho 2004; Liberia 2007 & 2009; Niger 2006; Rwanda 1992, Tanzania 1999; Zambia 2007; and Zimbabwe 2005-2006. These mixed experiences on the relationship between child mortality and household wealth within countries and over time raise a number of questions. In particular, what are some of the contextual variables that account for observed differences in wealth mortality gradient? For instance, research needs to determine whether, and in what ways observed mortality gradients along SES groups depend on the country's stage in demographic transition? These questions are subject for future research.

7.8. Discussion

Previous studies on the wellbeing of African children typically focused on poverty or on socio-economic inequality within countries. While these studies are needed and helpful, they provide a partial picture of the emerging differentiation of African countries. This study seeks to complement existing bodies of literature by placing inequality at the center of discourse on the wellbeing of African children across countries. Specifically, I document levels and trends in income and mortality inequality, and account for factors that drive income inequality changes. First, my analysis shows that while at global level income inequality among children is converging (Eloundou-Enyegue and Rehman 2009), the opposite is true for African countries. Studies focused on other world regions, like the United States (Lichter and Eggebeen 1993; Ozawa and Lum 1996) found also high and worrisome divergence in

economic resources and social outcomes among children. Second, while mortality inequality at global level diverged over time (Eloundou-Enyegue and Rehman 2009), my analysis shows very little inequality in child survival across African countries. However, when I examined mortality inequality within countries, I observe steep gradients along socio-economic lines. These results are contrary to the convergence recently observed within 22 Latin American countries (Sahn and Younger 2005). What remains unknown is what contextual factors explain the differences in the mortality gradient along socio-economic lines within sub Saharan African countries? Moreover, my analysis adds to existing literature that calls for examination of children as distinct demographic groups whose experiences may differ significantly to those of other sub populations such as adults or the elderly. Similar to observations at the global level and the United States (Ozawa and Lum 1996; Eloundou-Enyegue and Rehman 2009), my evidence shows substantially higher levels of inequality among children compared to other adults suggesting that it is erroneous to infer children's trends from adult trends. Last, most studies on global inequality highlight the exceptionalism of Africa, especially its tendency to drive levels and trends in overall income inequality or inequality among children (Svedberg 2004, Kenny 2005, Eloundou-Enyegue and Rehman 2009). While this recognition is critical, it leaves "Africa" as a black box. In other words, these studies do not go far enough to illustrate which African countries influence global trends in inequality, or shed light on internal differences among African countries themselves. Indeed, my analysis shows that sub Saharan Africa does not provide an even playing field, at least for children. Even after accounting for the influences of Nigeria and South Africa, substantial educational resource inequality exists across sub Saharan African countries – largely driven by differential economic performance, uneven fertility transitions that

shape child rearing burden across countries, and also government allocation to children's education. Overall, my study provides a nuanced lens through which the wellbeing of African children can be evaluated. Therefore, it is important to recognize how uneven economic trajectories and demographic transition have begun to, and will likely continue to shape the size and changes in socio-economic inequality among African children.

7.9. Conclusion

As African nations celebrate half a century of independence from colonial rule and the world evaluates how well each country is marching towards achieving the 2015 Millennium Development targets, the discourse on children's wellbeing will likely center around issues of hunger, poverty, and access to schooling. A somewhat forgotten part of the puzzle is to what extent African countries themselves are becoming dissimilar economically over time (Kandiwa 2006), and much less on how children's economic resources and social outcomes could be diverging across countries. This study attempts to provide an alternative perspective to the experiences of African children. While the scope and drivers of poverty are well appreciated, I submit that resource inequality among children across sub Saharan Africa is not only high, but remains grossly underappreciated. While child mortality inequality converged across African countries, within countries, socio-economic status shapes patterns of child survival. On the other hand, educational resource inequality among children increased from the 1970s before peaking around 1999 and tapering slightly thereafter. After accounting for the influences of Nigeria and South Africa, educational resource inequality among African children remains high. Notably, educational resource inequality among children is more than double the rates for

adults and decomposition results reveal that differential economic growth, differences in budgetary allocation to children, and changes in child rearing burdens across countries drive observed trends in inequality while child population size per se has little effect. Overall, the extent to which these patterns will continue largely depends on the pace of ongoing demographic transitions which will in turn shape population age structure. Future inequality might also depend on economic factors such as GDP growth and the share of that amount which is allocated to children. Future research on structural factors that shape stratification patterns among African children could identify contextual factors that account for the differences in the mortality gradients along socio-economic lines within countries, estimate trends in inequality for other social outcomes such as educational attainment, or evaluate the effectiveness of existing public policies and private strategies aimed at buffering inequality among children.

CHAPTER 8

MITIGATING INEQUALITY: CHILD FOSTERAGE IN SUB SAHARAN AFRICA

8.1 Introduction

Recent studies show that while global income inequality between countries declined in the last two decades (Firebaugh and Goesling 2004 and others), the trend in sub Saharan Africa went in the opposite direction (Kandiwa 2006). Even more disturbing, Chapter 8 highlights emerging income and health inequalities among children in sub Saharan Africa, a trend that might fuel future inequality. The question that arises is: what institutional arrangements are available to buffer these inequalities among children in sub Saharan Africa? In a perfect world, each African country would have universal and effective formal social safety nets that cover the needs of children from less fortunate backgrounds. These safety nets may include cash transfers, in kind transfers such as food relief, or public works (Munro 2005). In reality, however, most African countries have missing or inadequate formal social safety nets. Where safety nets exist, they are prone to targeting problems where they either excessively cover non eligible individuals, or conversely where they fail to reach deserving populations (Cornia and Stewart 1993). In the absence of universal and effective formal social safety nets, who steps in to buffer inequality among children?

Historically the African extended family system was the primary mechanism through which families shared the burden of child rearing. In that context, fertility is a national burden not an individual choice. Individuals who bear more children often

distribute their progeny among relatives with fewer children or to those with more economic resources. In some ways, this may suggest that in Africa there really is no room for individual affluence because the burden of child rearing is shared. As such, a national fertility regime, rather than an individual one, matters because over time, all children end up being raised by someone within their extended family line. Over time however, economic downturns, fertility transitions, and cultural changes raised questions about the continued effectiveness of this institution. Can the African extended family system be relied upon to continue to buffer inequality among children? This chapter seeks to shed light on this question by asking the following questions:

i) How prevalent is the practice of child fosterage and what factors explain cross country differences in scope of fosterage?
ii) How effectively does the informal mechanism of child fosterage operate at national level and how has the effectiveness changed over time within and across countries?
iii) Does fosterage effectiveness vary across gender?
iv) What contextual factors explain observed differences in fosterage effectiveness across countries in sub Saharan Africa?

These questions are pertinent and timely because they provide key insights on an institutional mechanism that cares for African children even if its relevance is seldom acknowledged in the literature. Results show that child fosterage is still widespread in sub Saharan Africa, where between one in ten and up to one in three children grow up in a household without their biological parents. Still, some countries, especially those in West Africa show significant declines in the proportions of fostered children (Rwanda Niger, Benin, Burkina Faso, Cameroon, Ethiopia, Ghana, Guinea,

Madagascar) while percentages in East Africa remain unchanged (Eritrea) or increased in a few countries (Nigeria, Namibia, Malawi, Zambia, Zimbabwe and to a lesser extent Kenya, Mali, Rwanda, and Tanzania). Unsurprisingly, multivariate analysis shows that HIV/AIDS prevalence and GDP per capita are positively associated with fosterage prevalence. Further, results show that 'the invisible hand of child fosterage' has largely been effective in distributing children across family types even if there is a large variation in the level of effectiveness across countries and between genders. Multivariate analysis identifies factors that explain why some countries are better at channeling children within the extended family system in ways that may buffer inequality. Economic performance (GDP growth) in prior years is significantly associated with changes in fosterage effectiveness. Further, I find strong evidence for regional differences in fosterage effectiveness. West and Central African countries are significantly less effective in distributing children at national level compared to East African countries. No significant difference is found between fosterage effectiveness of Southern and East Africa countries. These results help us understand the internal functioning of the African extended family system. Given the sheer scope of coverage of this system, future research on the wellbeing of African children should examine other dimensions of this system.

The rest of this chapter is organized as follows. First, I briefly discuss the conceptual framework and theoretical expectations that guide my analysis. I then present findings on levels and determinants of fosterage prevalence. Third, I discuss findings on fosterage effectiveness across countries over time. I also elaborate on differences in fosterage effectiveness between boys and girls. Last, I present multivariate regression results on the correlates of fosterage effectiveness. A conclusion then follows.

8.2. Conceptual Framework and Theoretical Expectations

In Chapter 4 I discuss in detail the salience of the African extended family in buffering inequality among children. Essentially, if the African extended family represents an important institutional arrangement for the care of children, it should (i) provide wide and non discriminatory coverage, (ii) ensure that fostered children receive adequate care within the households where they are raised, and finally (iii) occur in ways that move children from less fortunate backgrounds to households where they would likely enhance their chances of survival, schooling, and socialization.

First, what can we say about the scope of coverage of the extended family system? Has it remained high, low, or unchanged over time and why? Seminal studies (Isiugo-Abanihe 1985) as well as more recent analyses (Mensch 1999) identify high levels of child fosterage in sub Saharan Africa. However, other scholars (Madhavan 2004) recently raised questions about how well the extended family system could continue to provide care to as many children as it has done in the past. Several factors suggest that the scope of coverage of the extended family system could be in gradual or even precipitous decline. On the one hand, cultural transformations and adoption of Western practices may have led affluent middle class families to embrace nuclear family structures where they focus on their biological children only, reducing the level of altruistic fosterage. Second, even if the wealthier middle class families wanted to foster children, perhaps economic downturns limit their ability to do so. All this is occurring at a time when fertility transitions within countries unfold unevenly in such a way that middle class women are bearing fewer and fewer children compared to poorer women. As such, if indeed Westernization and family nucleation

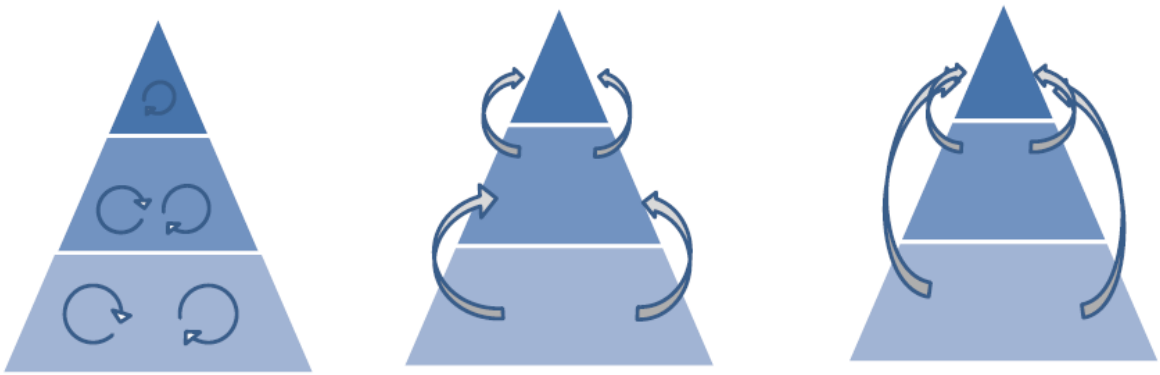
are gaining ground, and economic austerity restrict altruistic behavior, the largest burden of child rearing will in future fall among the households that are least capable to provide sufficient care for those children. In that regard, the extended family system could be on a decline.

Second, even if the extended family system still offers refuge to a large proportion of children, how deeply can it support these children? This question has not escaped the attention of social scientists. Rather, a significant body of literature examines the care, education, and health outcomes of fostered children compared to biological children in sub Saharan Africa (see for instance Bledsoe et al 1988; Bledsoe and Brandon 1992; Foster 2000; Gage 2000; Kobiane et al. 2005). Together, this body of literature sheds light on microlevel effectiveness of the African extended family system as it explores what occurs within households and what difference it makes on the wellbeing of fostered children, including orphans. But, I argue that these studies only offer a partial analysis. A more complete evaluation requires attention to the scope of coverage but also to the quality of care at micro level, and to patterns of macrolevel flows. While the first two have been addressed in the literature, the missing component is the *bird's eye view* on the effectiveness of the extended family system at national level. In other words, if you take a single country at a given point in time and look at the stock of fostered children – in what family types are these children growing up? Do fostered children move from households of large sibship to those with smaller sibship sizes? Do they move from economically deprived households to households of better wealth standing? Or, is it the case that the Hamilton Rule observed by Case *et al* (2004) obtains – where the opportunities for fosterage accrue along familial lines only, rather than to the neediest in society? Further, do these fosterage flows differ along gender lines? These additional questions

are critical because they also contribute to shape the effectiveness of the extended family system at the macro level. Ongoing economic downturns, cultural transformations and westernization could portend negative outcomes for child fosterage patterns at the macro level.

The effectiveness of African solidarity networks in equalizing opportunities among children depends on the directionality of flows at macro level. In other words, to what extent does the African extended family system able to distribute children in ways that hold potential for improving their wellbeing. Specifically, does the system systematically channel fostered children in ways that concentrates them in particular family types?

Figure 8.1 shows three ways in which the extended family system may circulate children within a national context; Circulation, stepwise convergence, and convergence.



Source: Eloundou-Enyegue and Kandiwa (2007)

FIGURE 8.1. Three Theoretical Modes for Children's Circulation at Macro-Level

First, consider family hierarchies organized according to family size or socio-economic status. It may be the case that the system channels children from larger and poor families to be fostered in equally endowed households.

This scenario, circulation, is inequality enhancing because children end up no better than they began. Secondly, it may be the case that the system channels children from a socio-economic strata directly below to one above in a step-wise sequential manner. This scenario has moderate potential for bridging the inequality gap.

Third, it may also be the case that children from the lowest socio-economic groups leap frog the intermediate strata and end up growing up with the smallest and most economically endowed households. Theoretically one would expect this scenario to lead to convergence in opportunities available to children. Needless to say, the directionality of flows is a necessary but insufficient condition for convergence because ultimately, it will depend on micro-level dynamics within the destination homes. Yet, it's equally important to understand whether fostered children are largely overrepresented in inferior family types. Last, the three modes describes above suggest an upward flow. Yet, in reality it need not be so because possibly the system may also channel children in the reverse direction but following the same patterns of stepwise or convergence. I hypothesize that macro level fosterage flows tend to "circulate" children in household not unlike their original birth places, and that the quality of macro level flows within countries does not significantly differ between boys and girls. Next I present results on levels and determinants of fosterage prevalence.

8.3. Prevalence and Change in Child Fosterage Levels

In the past, the limited availability of data limitations made it extremely difficult to conduct historical or comparative analyses of child fosterage. This limitation is increasingly overcome with Macro International's Demographic and Health Surveys, which periodically collect information on household characteristics, including relatedness and residence status of children in a household.

Figure 8.2 shows the most recent estimates of fosterage prevalence among 10-14 year olds in up to 35 sub Saharan African countries. Results show that the extended family system is still a core institutional arrangement for the care of children in sub Saharan Africa. Between one in ten (for instance Eritrea, Niger, Burkina Faso, Mali, Nigeria, and Ethiopia) and up to over one in three (for instance Namibia, Swaziland, Zimbabwe, Sierra Leone, Liberia, South Africa, Zambia, Lesotho, and Malawi) children grow up in a household with neither of their biological parents. Additionally, the results show that fosterage increases with child age – a smaller proportion of children of younger ages (0-2 year olds) live in households without their biological parents compared to older children. This is true of most countries except for Swaziland and Namibia that reflect double digit percentages for these toddlers.

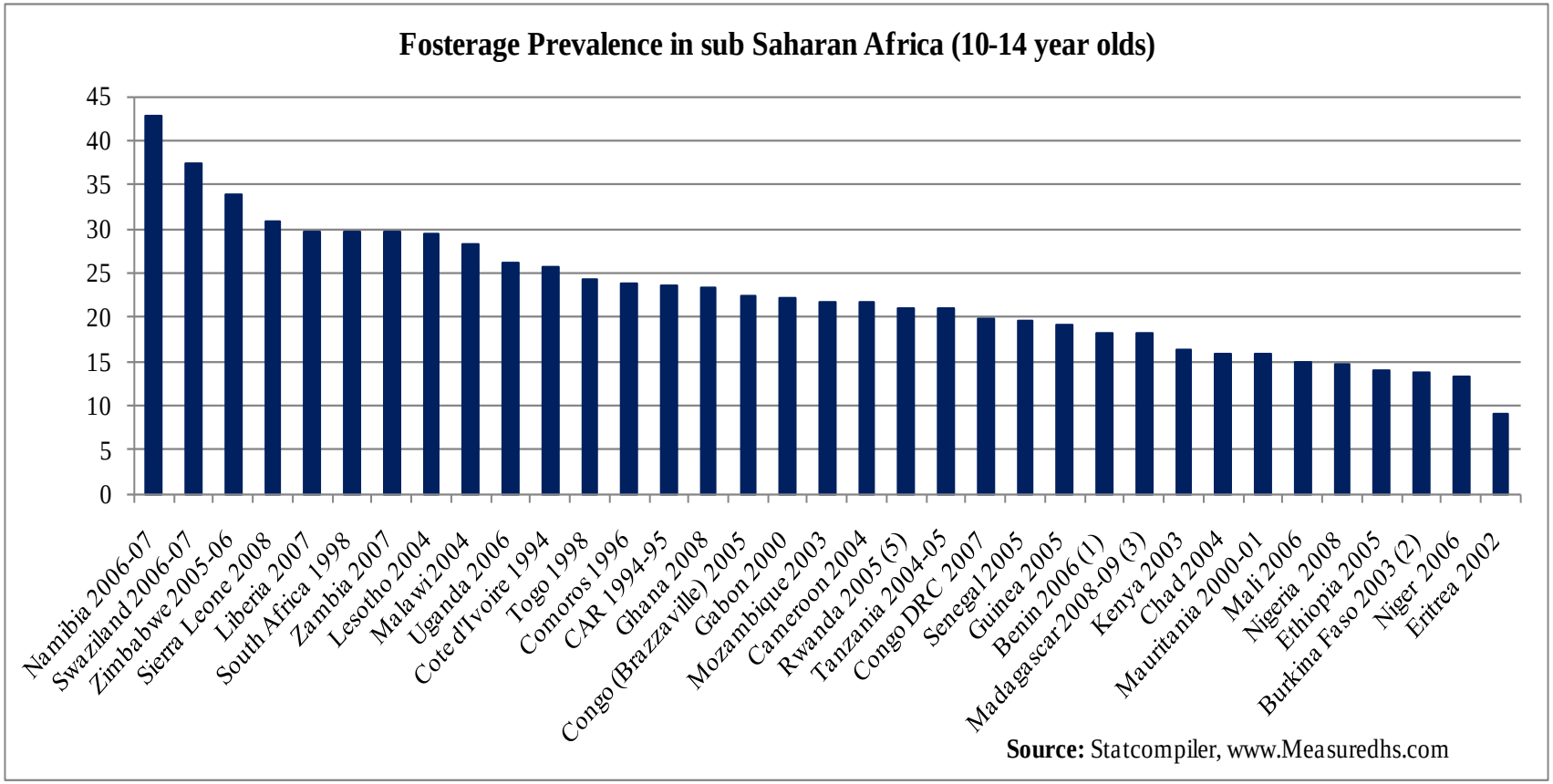


FIGURE 8.2. Fosterage Prevalence (10-14 year olds) across sub Saharan African Countries: Most Recent Surveys

Table 8.1 shows how fosterage rates changed over time, and how they vary across age groups. The table shows fosterage levels captured in 79 surveys across 33 countries. Of these countries, 22 countries have more than one survey providing up to 40 data points on changes in fosterage within countries over time. As expected, changes in fosterage rates vary across countries with some countries witnessing declines, while in other countries fosterage rates remained unchanged or even increased. For consistency, I examine changes in fosterage rates among 10-14 year old children in respective countries. The steepest decline (-19%) occurs in Niger between 1998 and 2006 while the highest increase (38%) occurs in Zimbabwe between 1999 and 2005. Countries showing declines include Benin, Burkina Faso, Cameroon, Ethiopia, Ghana, Guinea, Madagascar, and Rwanda. Countries where fosterage rates remained largely unchanged include Zambia (between 1992 and 1996), Kenya (between 1993 and 1998), and Eritrea (between 1995 and 2002). Countries where more and more children are growing up in households without their biological parents include Nigeria (27% increase between 1999 and 2003); Namibia (25% increase between 1992 and 2000); Malawi (19% increase between 1992 and 2000), and Zambia (18% increase between 1996 and 2001). Kenya, Mali, Rwanda and Tanzania also witnessed modest increases in the number of fostered children. In short, these statistics reflect the wide diversity of experiences across sub Saharan African countries. The question that arises is: why is it that some countries have a higher proportion of fostered children compared to others?

TABLE 8.1. Child Fosterage Prevalence by Age Group

	Age Group (%)				Change between Survey Periods (10-14)	
	0-2	3--5	6--9	10--14	Nominal	%
Benin 2006	1.4	8.1	14.3	18.3	-3.1	-14.5%
Benin 2001	1.5	9.5	16.7	21.4	-1.7	-7.4%
Benin 1996	1.1	8.9	18.5	23.1		
Burkina Faso 2003	0.8	5.5	10.8	13.7	-3.2	-18.9%
Burkina Faso 1993	0.6	6.7	12.6	16.9		
Cameroon 2004	3.6	11.8	17.5	21.6	0.9	4.3%
Cameroon 1998	3.1	9.6	15.6	20.7	-0.5	-2.4%
Cameroon 1991	2.4	9.3	15	21.2		
CAR 1994-95	1.9	10.1	19.4	23.6		
Chad 2004	1.3	7.5	10.8	15.9	-0.5	-3.0%
Chad 1996-97	1.5	6.7	12.9	16.4		
Comoros 1996	4.7	15.9	20	23.8		
Congo (Brazzaville) 2005	3.1	10	15.9	22.5		
Congo DRC 2007	3.1	9.1	12.1	19.8		
Cote d'Ivoire 1994	2.1	11	16.8	25.7		
Eritrea 2002	1.2	2.6	6	9.1	0.1	1.1%
Eritrea 1995	1.4	3.2	6	9		
Ethiopia 2005	1.5	5.2	9.7	13.9	-2.8	-16.8%
Ethiopia 2000	2.1	7.5	11.5	16.7		
Gabon 2000	6.7	14.3	20.1	22.1		
Ghana 2008	4.4	12.6	18.1	23.3	-1	-4.1%
Ghana 2003	2.4	12.1	18	24.3	0.7	3.0%
Ghana 1998	2.6	12	18.8	23.6	1.1	4.9%
Ghana 1993	2.1	11.5	17.4	22.5		
Guinea 2005	1.6	11.7	15.8	19.1	-1.2	-5.9%
Guinea 1999	2.5	11.3	16.9	20.3		
Kenya 2003	2.2	8	12.5	16.3	2.2	15.6%
Kenya 1998	2.6	7.4	11.1	14.1	0.2	1.4%
Kenya 1993	3.1	6	10.3	13.9		
Lesotho 2004	9.2	22.3	24.8	29.5		
Liberia 2007	6.8	16.3	23.2	29.7		
Madagascar 2008-09	2.8	9.2	13.1	18.2	1.3	7.7%
Madagascar 2003-04	3.5	10.1	13.2	16.9	0.5	3.0%
Madagascar 1997	2.6	10.3	12.7	16.4	-0.6	-3.5%
Madagascar 1992	2.1	8.5	11.5	17		
Malawi 2004	3	12.5	22.2	28.3	1.6	6.0%
Malawi 2000	2.8	11.5	19	26.7	4.2	18.7%

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TABLE 8.1 (CONTINUED)

	Age Group (%)				Change between Survey Periods (10-14)	
	0-2	3--5	6--9	10--14	Nominal	%
Malawi 1992	2.2	9.9	15.3	22.5		
Mali 2006	1.7	7.5	10.8	15	0.5	3.4%
Mali 2001	1.4	7.3	10.6	14.5	1.7	13.3%
Mali 1995-96	1.3	7.6	11.3	12.8		
Mauritania 2000-01	3.7	11.6	13.2	15.9		
Mozambique 2003	2.3	8.7	15.9	21.6	-0.3	-1.4%
Mozambique 1997	2	8.8	13.9	21.9		
Namibia 2006-07	14.4	31.3	35.4	42.8	0.6	1.4%
Namibia 2000	15.1	30	37.6	42.2	8.4	24.9%
Namibia 1992	16.1	30.8	32	33.8		
Niger 2006	3.3	9.9	12.2	13.2	-3.1	-19.0%
Niger 1998	2.7	12.3	14.5	16.3	-1.8	-9.9%
Niger 1992	3.8	12	15	18.1		
Nigeria 2008	1.9	6.7	10.6	14.6	-2.7	-15.6%
Nigeria 2003	2.3	7.8	12.1	17.3	3.7	27.2%
Nigeria 1999	1.9	6.4	10.8	13.6		
Rwanda 2005	2	7.6	12.5	21.1	-0.1	-0.5%
Rwanda 2000	2.1	9	16.9	21.2		
Senegal 2005	2.3	10.6	16.4	19.5	2.1	12.1%
Senegal 1992-93	2.2	9.9	14.6	17.4		
Sierra Leone 2008	8.5	21.4	25.9	30.9		
South Africa 1998	13.2	22.7	27.4	29.6		
Swaziland 2006-07	14.7	30.2	34	37.5		
Tanzania 2004-05	2.9	10.2	14.4	21	0.2	1.0%
Tanzania 1999	2.6	11.1	17	20.8	1.4	7.2%
Tanzania 1996	3.3	12.9	16.3	19.4	1	5.4%
Tanzania 1991-92	2.7	10.7	15.3	18.4		
Togo 1998	2	10.5	17.8	24.3		
Uganda 2006	4.4	14.3	21.5	26.2	0.7	2.7%
Uganda 2000-01	3.6	12.1	20.1	25.5	-1.1	-4.1%
Uganda 1995	3.9	14.1	20.6	26.6		
Zambia 2007	2.5	9.8	18.2	29.6	2.4	8.8%
Zambia 2001-02	3	9.5	18.5	27.2	4.2	18.3%
Zambia 1996	2	10.9	17.3	23	0.3	1.3%
Zambia 1992	3.3	11.2	15.8	22.7		
Zimbabwe 2005-06	7.7	21	29.4	34	9.3	37.7%
Zimbabwe 1999	6.5	17.3	23.3	24.7	2	8.8%
Zimbabwe 1994	7.1	17	18.4	22.7		

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TABLE 8.1 (CONTINUED)
*Fosterage refers to children living with neither of their biological parents, including orphans
Source: Macro International Inc, 2011. MEASURE DHS STATcompiler. http://www.measuredhs.com, January 31 2011.

8.3.1 Determinants of Fosterage Rates

What factors explain the variation in child fosterage rates across countries? Theoretically, I expect that demographic, economic, cultural and geographic factors could explain observed differences in fosterage rates. First, I expect that countries with high youth dependency rates contain a larger stock of needy children and therefore will tend to have higher fosterage rates. This is also partly possible because of the nature of uneven fertility transitions that are occurring in countries where women who still bear five or more children tend to be the ones least able to raise the children. On the other hand, I expect that the orphan crisis spurred by HIV/AIDS mortality increases the stock of children in need of fosterage opportunities. Logically, I expect countries with higher rates of HIV/AIDS prevalence to have higher rates of fosterage all other things held constant. Second, cultural shifts spurred by urbanization could also affect the rates of fosterage. The relationship could be mediated by a number of reasons. First, as more families move to urban areas it could signal a decline in the demand for fosterage by children who often move from rural to urban areas in search of better educational opportunities because they would have moved with their own families. Second, increased literacy (or a desire for literacy) may lead families to choose smaller nuclear households than to foster and have more children among which the family budget is shared. Third, for historical reasons (many of which would be hard to determine a priori), some parts of Africa could be more likely to foster children than other. Last, I expect economic factors to affect the levels of fosterage in a country. Economic downturns or expectation of downturns in the future might dampen the willingness of households to foster children. Further, the level of income inequality

within countries matters as well. On the one hand, sending families see the need to out foster their children to wealthier relatives. Yet, on the other hand, perhaps the rich may be least likely to foster so therefore the sign and magnitude of this variable could go either way. The quality of government performance is another potential factor. Assuming transparent governments spend national resources equitably, one could expect that average families may be less prone to out foster their children because they probably have adequate social amenities in their local environments.

I draw on the World Bank's World Development Indicators database to obtain national statistics for variables that explain the variation in fosterage rates across countries. A note on the process of estimating the multivariate regression model is in order here. I begin from the standpoint that observed rates of fosterage in a particular country in a given year are a result of decision taken by families in previous years given their lived economic and social experiences at that time. As such, I lag the explanatory variables by taking the average figure of the last five years preceding each DHS survey in each respective year. Given that the DHS surveys are collected in different years, building this dataset required slow and careful iterations for each country, and for each survey year. Table 8.2 shows results from the multivariate analysis.

Model 1 examines whether youth dependency and HIV prevalence is significantly associated with changes in fosterage prevalence. As expected, HIV prevalence is positively associated with changes in fosterage rates. Surprisingly, youth dependency is negatively associated with fosterage prevalence however this effect wanes after control for other variables in subsequent models. HIV prevalence retains a significant positive relationship even for the full Model 6. Urbanization has no effect on fosterage rates. Literacy rates seem to have a significant positive relationship with fosterage prevalence but this effect fades away when geographical and economic factors are controlled. In other words, countries in West Africa and Southern Africa

TABLE 8.2. Factors Associated with Change in Fosterage Prevalence

Variable	Model 1 Demographic Beta			Model 2 Cultural Beta			Model 3 Region Beta			Model 4 Economic Beta			Model 5 Inequality Beta			Model 6 Democracy Beta		
Main Effects																		
Youth Dependency	-0.951	[-.346]	***	-0.802	[-.289]	*	0.040	[.014]		-0.025	[-0.009]		-0.077	[-0.028]		-223	[-.089]	
HIV Prevalence	0.496	[.530]	***	0.340	[.363]	**	0.269	[.287]	**	0.313	[.335]		0.323	[.346]		0.408	[.548]	**
Cultural																		
Urbanization				-0.032	[-.063]		0.037	[.073]		0.022	[.043]		0.010	[.020]		0.031	[.073]	
Literacy				0.081	[.280]	*	0.092	[.319]	**	0.091	[.314]	*	0.076	[.262]	†	0.066	[.287]	
Regional Effects																		
West							1.108	[0.084]		1.277	[.096]	***	1.365	[.103]		0.906	[.092]	
Central							-0.352	[-0.017]		-0.509	[-.024]	†	-0.554	[-.026]		-2.981	[-.184]	
South							9.634	[0.460]	***	8.788	[.42]	**	6.497	[.310]	**	0.334	[.012]	
Economic Effects																		
ln (GDPpc PPP)										0.231	[0.067]		0.287	[.083]		0.932	[.351]	†
GDP Growth Rate										-0.100	[-0.042]		-0.046	[-0.019]		-0.21	[-0.122]	
Inequality																		
Gini Coefficient													0.150	[.215]	**	0.001	[0.002]	
Democracy																		
Transparency																-2.623	[-.301]	†
Constant	61.977	***		52.839	**		11.557			13.355			9.725			26.777		
R. Sq Adjusted	0.461			0.470			0.599			0.587			0.614			0.399		
df	67			66			66			66			66			60		

†p <.1; * p <.05; **p <.01; ***p <.001 ; Numbers in parentheses are standardized betas
Dependent Variable: Fosterage rate for 10-14 year olds

are likely to foster more children than those in East Africa but this relationship is not statistically significant. The full Model (Model 6) shows that GDP per capita is positively associated with fosterage rates. That is, all things remaining constant, wealthier countries tend to have higher rates of fosterage. Interestingly, Model 5, which examines the effect of inequality (Gini Coefficient), turns out significant and positive suggesting that if inequality rises in a country, families are more likely to foster, all other factors remaining constant. But, this influence also wanes after control for democracy or transparency of government. Overall, only HIV prevalence, GDP per capita, and Transparency seem to be consistently associated with changes in fosterage levels within sub Saharan African countries.

The above section discussed the levels and correlates of fosterage prevalence. But, how effectively does the extended family system buffer inequality among children by channeling them across various family types? Addressing this question is the object of the next section.

8.4. Fosterage Effectiveness

Given the high prevalence of fosterage, it is useful to examine how well the system works at national level. This section explores evidence on the macro-level effectiveness and how it changes over time within and between countries. To explore these interrelated questions, I apply an index of demographic concentration to evaluate how effectively the extended family system channels children, at national level, among various family types. Discussed in Chapter 7.5, the index of demographic concentration makes it possible to examine whether fostered children are overrepresented in large (small) sibship households compared to biological children or in wealthier (poorer) households.

$$IC= (O_i - E_i) * \ln(r_i)$$

Where:

IC=index of concentration; i=index group (family size in the case of demographic concentration); E_i= percentage of children expected to be fostered into the group, if children were distributed proportionately according to group size; Specifically, E is the percentage of biological children in this (sibsize) group, relative to all biological children; O_i=percentage of children actually fostered in this group (out of all fostered children); r_i= is the sibsize ratio; that is, group sibsize divided by average sibsize.

The index is calibrated for easy interpretation. If fostered children are as likely to be in large households as they are to be in smaller households, the index value is zero. If, on the other hand, fostered children are overrepresented in larger households compared to smaller ones then the index value is less than zero. Conversely, if fostered children are overrepresented in smaller sibship households than large households, then the index value is greater than one. Thus, positive values indicate effective fosterage that tends to reduce inequality by selectively fostering children into households that have smaller sizes.

DHS surveys collect data on family or household characteristics. For each household, one can determine the household sibship size, relatedness of every household member, residence status of each member. As such, for each survey, I select all children below the age of 14 and allocate them into respective household categories starting from a household with 0-1 child, to those with 10 children or more. Table 8.3 illustrates the distribution patterns for children in the top (South Africa, Namibia, Swaziland, and Congo Brazzaville) and bottom four countries (Benin, Ghana, Rwanda, and Senegal) in terms of fosterage effectiveness. Each table represents a particular DHS survey in the respective country at a given point in time. As such, these eight surveys are a subset of the 79 surveys that I analyzed.

Each of the Tables in 8.4 has detailed information on the distribution of children across family types. The last column (Ci) shows also in which family type fostered children are underrepresented (negative sign) or overrepresented (positive sign). For instance, in South Africa in 1998, fostered children were underrepresented in just one type of family (sibsize 5) while in Namibia, they are underrepresented in families of sibsize 4 and 5.

The sum of the Ci column gives the overall index of demographic concentration. In this case, the best four countries are South Africa (29.07), Swaziland (24.26), Swaziland (24.06), and Congo Brazzaville (22.44). The countries that show negative concentration of fostered children include Senegal (-7.19), Ghana (-5.46), Benin (-1.93), and Rwanda (-0.95). Overall, the index varies from the lowest index recorded for Senegal in 1997 (-7.19) to the highest index recorded for South Africa in 1998 (29.07). The mean index value is 9.74 with a standard deviation of 7.4. Because it is impossible to discuss each survey individually, Table 8.4 provides a quick summary of the levels and distribution of the index of demographic concentration across all 33 countries and how it changed over time in some countries with panel datasets. Four countries reflect negative buffering for fostered children along demographic lines; Rwanda 2005 (-0.95), Ghana 1998 & 2003 (-5.46 and -1.07),

TABLE 8.3. Indices of Demographic Concentration of Fostered Children in Top and Bottom Four Countries

South Africa 1998

Sibsize	Bio Kids	Fostered	Relative Group Size	Expected (Ei)	Observed (Oi)	ri	Ci
1	1401	1056	2457	13.94	11.35	1.27	0.62
2	2914	1828	4742	28.99	19.65	2.45	8.37
3	2548	2018	4566	25.35	21.69	2.36	3.14
4	1692	1452	3144	16.83	15.60	1.62	0.60
5	858	1147	2005	8.54	12.33	1.04	-0.13
6	326	736	1062	3.24	7.91	0.55	2.80
7	193	535	728	1.92	5.75	0.38	3.75
8	83	253	336	0.83	2.72	0.17	3.32
9	10	143	153	0.10	1.54	0.08	3.65
10	27	137	164	0.27	1.47	0.08	2.97
Total	10052	9305	1936				29.07

Namibia 2006/2007

Sibsize	Bio Kids	Fostered	Relative Group Size	Expected (Ei)	Observed (Oi)	ri	Ci
1	1002	730	1732	13.84	8.60	1.10	0.50
2	1812	1364	3176	25.02	16.06	2.02	6.30
3	1736	1642	3378	23.97	19.33	2.15	3.55
4	1226	1462	2688	16.93	17.21	1.71	-0.15
5	669	1141	1810	9.24	13.43	1.15	-0.59
6	463	845	1308	6.39	9.95	0.83	0.66
7	164	536	700	2.26	6.31	0.44	3.28
8	75	357	432	1.04	4.20	0.27	4.09
9	50	166	216	0.69	1.95	0.14	2.51
10	44	250	294	0.61	2.94	0.19	3.92
Total	7241	8493	1573				24.06

TABLE 8.3. (CONTINUED)

Swaziland 2006/07

Sibsize	Bio Kids	Fostered	Relative Group Size	Expected (Ei)	Observed (Oi)	ri	Ci
1	427	331	758	10.20	6.83	0.84	-0.59
2	810	658	1468	19.35	13.57	1.62	2.81
3	964	860	1824	23.03	17.74	2.02	3.72
4	804	740	1544	19.21	15.26	1.71	2.11
5	625	675	1300	14.93	13.92	1.44	0.37
6	288	540	828	6.88	11.14	0.92	0.37
7	150	417	567	3.58	8.60	0.63	2.34
8	61	235	296	1.46	4.85	0.33	3.78
9	35	217	252	0.84	4.48	0.28	4.65
10	22	176	198	0.53	3.63	0.22	4.71
Total	4186	4849	904				24.26

Congo Brazzaville 2005

Sibsize	Bio Kids	Fostered	Relative Group Size	Expected (Ei)	Observed (Oi)	ri	Ci
1	744	363	1107	8.65	9.43	0.89	0.09
2	1728	636	2364	20.09	16.53	1.90	2.28
3	2231	760	2991	25.94	19.75	2.40	5.42
4	1834	714	2548	21.32	18.56	2.05	1.98
5	1153	552	1705	13.41	14.35	1.37	-0.30
6	493	371	864	5.73	9.64	0.69	1.43
7	175	147	322	2.03	3.82	0.26	2.41
8	84	156	240	0.98	4.05	0.19	5.07
9	53	46	99	0.62	1.20	0.08	1.47
10	106	103	209	1.23	2.68	0.17	2.58
Total	8601	3848	1245				22.44

Senegal 1997

Sibsize	Bio Kids	Fostered	Relative Group Size	Expected (Ei)	Observed (Oi)	ri	Ci
1	235	217	452	1.94	2.55	0.22	0.92
2	702	530	1232	5.81	6.23	0.60	0.22
3	1214	697	1911	10.04	8.20	0.93	-0.14
4	1767	861	2628	14.61	10.13	1.28	1.09
5	1806	989	2795	14.93	11.63	1.36	1.01
6	1498	854	2352	12.39	10.04	1.14	0.31
7	1100	762	1862	9.10	8.96	0.90	-0.01
8	933	587	1520	7.72	6.90	0.74	-0.25
9	811	503	1314	6.71	5.92	0.64	-0.36
10	2027	2503	4530	16.76	29.44	2.20	-9.99
Total	12093	8503	2060				-7.19

TABLE 8.3. (CONTINUED)

Benin 2001

Sibsize	Bio Kids	Fostered	Relative Group Size	Expected (Ei)	Observed (Oi)	ri	Ci
1	810	286	1096	7.33	10.22	0.79	0.68
2	1499	455	1954	13.56	16.26	1.41	-0.93
3	1945	515	2460	17.59	18.41	1.78	-0.47
4	1889	435	2324	17.09	15.55	1.68	0.80
5	1495	360	1855	13.52	12.87	1.34	0.19
6	1024	236	1260	9.26	8.43	0.91	-0.08
7	669	157	826	6.05	5.61	0.60	-0.23
8	480	120	600	4.34	4.29	0.43	-0.04
9	423	72	495	3.83	2.57	0.36	-1.29
10	821	162	983	7.43	5.79	0.71	-0.56
Total	11055	2798	1385				-1.93

Ghana 1998

Sibsize	Bio Kids	Fostered	Relative Group Size	Expected (Ei)	Observed (Oi)	ri	Ci
1	868	300	1168	11.43	14.53	1.21	-0.59
2	1462	520	1982	19.25	25.19	2.05	-4.27
3	1759	386	2145	23.16	18.70	2.22	3.56
4	1514	422	1936	19.94	20.45	2.00	-0.35
5	946	204	1150	12.46	9.88	1.19	0.45
6	476	106	582	6.27	5.14	0.60	-0.57
7	258	85	343	3.40	4.12	0.36	0.75
8	111	17	128	1.46	0.82	0.13	-1.29
9	114	12	126	1.50	0.58	0.13	-1.87
10	86	12	98	1.13	0.58	0.10	-1.26
Total	7594	2064	966				-5.46

TABLE 8.3. (CONTINUED)

Rwanda 2005

Sibsize	Bio Kids	Fostered	Relative Group Size	Expected (Ei)	Observed (Oi)	ri	Ci
1	1514	769	2283	8.45	22.46	0.96	0.53
2	3320	996	4316	18.53	29.09	1.82	-6.32
3	4443	813	5256	24.79	23.74	2.22	0.84
4	4044	452	4496	22.57	13.20	1.90	5.99
5	2920	250	3170	16.29	7.30	1.34	2.61
6	1259	91	1350	7.03	2.66	0.57	-2.46
7	277	38	315	1.55	1.11	0.13	-0.88
8	92	12	104	0.51	0.35	0.04	-0.51
9	51	3	54	0.28	0.09	0.02	-0.75
10							
Total	17920	3424	2372				-0.95

Where: Ei=% of biological children located in sibsize group i relative to total of all biological children; this is also the expected distribution if the invisible hand of child fosterage within the extended family system was working effectively and fairly.

Oi=% of fostered children in sibsize group I relative to total number of fostered children; this is the distribution we observe and need to compare with expected.

Ri= resource ratio or relative group size, that is, ratio of total number of children (biological and fostered combined) located in sibsize group relative to the group average.

Ci=sum of (Ei-Oi)*ln(ri). If Ci>0 it means positive buffering, and if IC<0 it means negative buffering

TABLE 8.4. Child Fosterage Effectiveness across sub Saharan African Countries

Country Name	Survey Year	N	Index of Demogr Conc	Index Change
Benin	1996	13173	3.43	
	2001	13853	-1.93	-5.36
	2006	42912	4.23	6.16
Burkina Faso	1993	15669	0.94	
	1998-99	15384	0.73	-0.21
	2003	28285	2.69	1.96
Cameroon	1991	9143	4.50	
	1998	11146	6.27	1.77
	2004	21687	6.34	0.07
Centr. Afr. Republic	1994-95	12400	10.99	
Chad	1996-97	17603	8.02	
	2004	13978	5.58	-2.44
Comoros	1996	5680	12.92	
Congo (Republic)	2005	12449	22.44	
Congo DRC	2007	21120	13.25	
Cote d'Ivoire	1994	17216	2.88	
	1998-99	5252	6.13	3.25
	2005	9834	14.19	8.06
Ethiopia	2000	28184	4.31	
	2005	29587	3.15	-1.16
Gabon	2000	12494	6.49	
Ghana	1993	10415	1.82	
	1998	9658	-5.46	-7.28
	2003	11457	-1.07	4.38
	2008	18591	5.31	6.38
Guinea	1999	15418	9.90	
	2005	19311	8.63	-1.27
Kenya	1993	18366	18.22	
	1998	16768	12.84	-5.38
	2003	15813	7.58	-5.26
	2008-09	16782	10.81	3.23
Lesotho	2004	13916	14.60	
Liberia	2007	15737	18.64	

TABLE 8.4. (CONTINUED)

Country Name	Survey Year	N	Index of Demogr Conc	Index Change
Madagascar	1992	13181	21.91	
	1997	14998	14.41	-7.50
	2003-04	15869	17.05	2.64
	2008-09	38667	14.93	-2.12
Malawi	1992	10995	18.00	
	2000	29312	14.68	-3.33
	2004	27885	15.11	0.43
Mali	1995-96	23456	2.83	
	2001	31388	4.78	1.95
	2006	34905	5.23	0.45
Mozambique	1997	19207	14.95	
	2003	27788	14.05	-0.90
Namibia	1992	11016	9.14	
	2000	12280	19.75	10.61
	2006-07	15734	24.06	4.31
Niger	1992	15825	6.41	
	1998	17147	13.91	7.50
	2006	23899	12.14	-1.77
Nigeria	1990	21892	9.83	
	1999	16787	1.68	-8.15
	2003	14773	6.85	5.17
	2008	69810	0.28	-6.57
Rwanda	1992	14369	7.42	
	2000	20501	1.11	-6.32
	2005	21344	-0.95	-2.06
Senegal	1992-93	14732	-5.16	
	1997	20596	-7.19	-2.03
	2005	24589	4.78	11.97
Sierra Leone	2008	18834	11.12	
South Africa	1998	19357	29.07	
Swaziland	2006-07	9035	24.26	
Tanzania	1991-92	20676	15.77	
	1996	17608	15.73	-0.04
	1999	8121	17.91	2.18
	2004-05	21541	16.47	-1.44
Togo	1998	20585	3.64	

TABLE 8.4. (CONTINUED)

Country Name	Survey Year	N	Index of Demogr Conc	Index Change
Uganda	1995	17388	10.02	
	2000-01	18088	9.59	-0.43
	2006	22641	15.26	5.66
Zambia	1992	15358	9.32	
	1996	17732	13.54	4.22
	2001-02	17425	15.99	2.45
	2007	16635	8.44	-7.55
Zimbabwe	1994	13271	15.42	
	1999	11913	17.26	1.84
	2005-06	18099	19.48	2.22

Benin 2001 (-1.93), and Senegal 1992/93 and 1997 (-5.16 and -7.19) respectively. The next set of countries that show very modest positive buffering (<10) include Nigeria, Burkina Faso, Mali, Togo, Benin among others. The top ten countries with positive buffering for fostered children are South Africa 1998 (29.07), Swaziland 2006-07 (24.26), Namibia 2006-07 (24.06), Congo Brazzaville 2003 (22.44), Madagascar 1992 (21.91), Zimbabwe 2005-06 (19.48), Liberia 2007 (18.64), Kenya 1993 (18.22), Malawi 1992 (18.00), Tanzania 1999 (17.91). Contrary to expectation, the data suggest that countries that carry the largest HIV/AIDS disease burden and its associated orphan population seem to be doing well in channeling children from larger to smaller households.

How do observed indices change over time within countries? The largest positive change is recorded in Senegal between 1997 and 2005 (11.97) and the largest negative change is recorded for Nigeria between 1990 and 1999 (-8.15). Out of 22 countries with multiple surveys, up to 15 countries (Benin, Burkina Faso, Chad, Ethiopia, Ghana, Guinea, Kenya, Madagascar, Malawi, Mozambique, Nigeria, Rwanda, Senegal, Tanzania and Uganda) show a negative change and only seven

show a positive change over time. Seven countries (Cameroon, Cote d'Ivoire, Mali, Namibia, Niger, Zambia and Zimbabwe) show negative buffering in the most recent survey periods. This could signal the waning effectiveness of the African extended family system. Also, it appears that countries that carry relatively larger HIV/AIDS and orphan burdens seem to be channeling children in a positive way. For instance, Zimbabwe, Zambia, Malawi and South Africa show relatively high indices of demographic concentration. Clearly, these findings are mixed and show the diversity of experiences across sub Saharan African countries.

In particular, these findings should be taken with caution because they only examine one aspect of macro level flows – along demographic lines. Therefore, they say nothing about the wealth profile of those larger (or smaller) family types and neither do they speak to the distribution of resources among children within households. The next section addresses the gender dimension of fosterage flows.

8.4.1. Fosterage Effectiveness: Does it differ by Gender?

Does fosterage effectiveness vary depending on the gender of children under consideration? To evaluate this question, I took the most recent DHS surveys from four countries (Zimbabwe, Cameroon, Namibia, and Senegal) and estimated demographic concentration indices in three ways -- for all children, for boys, and for girls for each respective country. The data suggest that the invisible hand of child fosterage works better in Zimbabwe and Senegal for girls compared to boys (Figure 8.3). In Zimbabwe the index for all children combine is 19.48 whereas that for girls is 13.64 and for boys the index lies at 9.5. In Senegal the overall index is -7.19 while that for girls is 14.92. On the other hand, Cameroon and Namibia reflect that boys are more likely to be fostered in smaller sibship households than girls (relative to observed rates for biological children). For Cameroon, the overall index is 4.5 while girls and

boys are at -7.98 and 3.92 respectively. Finally, in Namibia the index for all children combined is 24.06 while the indices for girls and boys lie at 22.09 and 27.1 respectively.

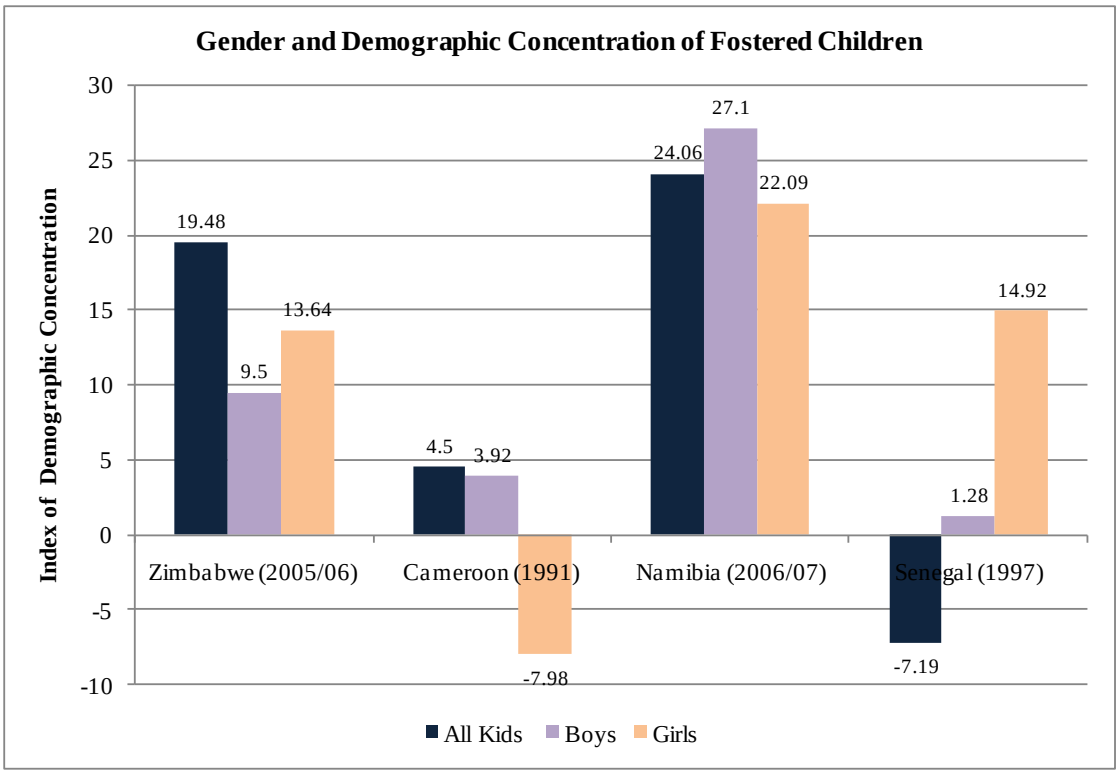

FIGURE 8.3. Fosterage Effectiveness by Gender

How significant are these differences? Why do some countries' fosterage flows discriminate across gender lines? Unfortunately, the present analysis does not shed light on these questions, and these are to be addressed in future research. However, these nominal differences in fosterage effectiveness suggest that gender is a possible marker for inequality among children in sub Saharan Africa – at least in terms of how it shapes patterns of macro level flows of fostered children.

So far I discussed fosterage rates and its correlates. I also presented evidence on effectiveness of the extended family system and briefly discussed gender

inequalities therein. The next section examines the factors that could explain the observed differentials in fosterage effectiveness across sub Saharan African countries.

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8.4.2 Correlates of Fosterage Effectiveness

Table 8.6 shows large international and historical variation in fosterage effectiveness. What contextual factors explain this variation? Theoretically, I expect demographic, geographical, economic and demographic factors to affect how well the extended family works within various countries. I draw on the World Bank's World Development Indicators for contextual variables that might explain observe variation. First, demographic factors such as total fertility rate, youth dependency, and HIV/AIDS prevalence appear to boost the sheer numbers of children in need of fosterage. As such, I expect these factors to be negatively associated with fosterage effectiveness. In the model however, I only include TFR and omit youth dependency since the two variables are highly correlated. Second, because of historical and cultural differences, I expect certain regions of the continent to be more effective redistributors than others. However, I cannot predict the magnitude or the direction of effectiveness for any specific country a priori. Third, assuming that families willingly foster children[23] we might expect a positive relationship between economic wellbeing (GDP per capita and GDP growth) and fosterage effectiveness. Similarly, if the government invests more money in education, it may suggest that the host family may be more willing to foster because it carries a financial burden of educating a foster child. On the contrary, it might be the case that the more educated people become, the more they embrace Western culture and the more they reject traditional practices such

[23] Even if we know this is seldom the case, see Eloundou-Enyegue and Stokes 2002. They find that some individuals are never consulted before a fosterage move occurs. Instead, some relatives may simply arrive, and over time blend into the family, regardless of the opinion of the receiving household. In such a case, fosterage occurs as an imposition from without rather than a choice for the host family or individual.

as child fosterage. Further, I expect the level of income inequality in a country (Gini index) to have conflicting effects. The level of effectiveness largely depends on whether the gap between the wealthy and the poor inspires the former to foster more children, or to sever ties with poorer relatives. It is an empirical question. Last, I include a variable for transparency and democracy in my model to explore if it possibly affects effectiveness of fosterage. I expect that more open and transparent societies have governments that are more likely to invest in social services, thereby increasing fosterage effectiveness.

I estimate several bi and multivariate regression models using the Predictive Analytics Software (PASW). Table 8.5 shows interesting results. First, the bivariate Model 1 between fosterage effectiveness (index of demographic concentration) and total fertility rate (TFR) shows the negative association expected. However, after controlling for HIV/AIDS prevalence in adult population, the effect of TFR fizzles away and remains insignificant for all subsequent models. At this point (Model 2), the disease burden seems to have a strong positive relationship with fosterage effectiveness. However, the HIV/AIDS prevalence variable also becomes insignificant in Model 3 after control for geographical location of countries. By far, regional location shows the strongest results as it reflects that West and Central African countries are less effective at channeling fostered children compared to East African countries. Southern African countries show a slightly positive result compared to East African countries but this relationship is not statistically significant. Models 4 and 5 control for economic and educational factors.

TABLE 8.5. Correlates of Fosterage Effectiveness

	Model 1 Demographic			Model 2 Disease Burden			Model 3 Region			Model 4 Economic			Model 5 Education			Model 6 Inequality		
Variable	Beta			Beta			Beta			Beta			Beta			Beta		
Main Effects																		
TFR	-2.676	[-0.342]	**	-1.492	[-0.191]		-1.126	[-0.144]		-1.391	[-0.178]		-1.898	[-0.249]		-2.029	[-0.266]	
Disease Burden																		
HIV Prevalence				0.430	[0.393]	***	0.149	[0.136]		0.203	[0.185]		0.198	[0.187]		0.2	[0.188]	
Regional Effects																		
West							-7.125	[-0.462]	***	-6.799	[-0.441]	***	-8.226	[-0.541]	***	-8.268	[-0.544]	***
Central							-3.839	[-0.166]		-5.127	[-0.222	†	-7.613	[-0.321]	**	-7.841	[-0.330]	**
South							2.329	[0.095]		0.841	[-0.034]		7.812	[0.329]		7.144	[0.301]	
Economic Effects																		
ln (GDPpc PPP)										0.286	[0.071]		-0.381	[0.098]		-0.424	[-0.109]	
GDP Growth Rate										-0.626	[-0.226]	**	-0.529	[-0.189]	†	-0.495	[-0.177]	†
Education																		
Education Expenditure													-1.335	[-0.334]		-0.15	[-0.376]	
Literacy													-0.038	[-0.583]		-0.05	[-0.154]	
Inequality																		
Gini Coefficient																0.096	[0.121]	
Constant	25.629	***		16.140	**		18.458	**		18.541	**		31.941	**		29.873	*	
R. Sq Adjusted	0.104			0.232			0.363			0.390			0.457			0.457		
df	71			67			67			67			65			65		

†p <.1; * p <.05; **p <.01; ***p <.001 ; Numbers in parentheses are standardized betas

Dependent Variable: Index of Demographic Concentration

Results show that country's average economic wellbeing (GDP per capita) does not matter when it comes to fosterage effectiveness (see Models 4 through 6). Rather, it is the *change* in economic performance that matters. Economic growth is surprisingly negatively associated with changes in fosterage effectiveness. Last, results show that levels of income inequality within countries (Gini coefficient) do not influence the effectiveness of the African extended family system. Overall, among all variables considered here, only geographical location and economic growth matters. The fit of the full Model (Adjusted R-Squared 0.457) suggests that there could be other variables whose effects are unaccounted for. Also, the limited number of DHS surveys used severely limits the models' degrees of freedom. But, this Model is specified with the best data available at this point.

8.5. Conclusion

Inequality, especially inequality among children in sub Saharan Africa is increasing. At a time when the world has standardized expectations for children's welfare including their rights to education and health (UN 1948, UN 1960; UN 1989, UN 2000), it is important to identify and evaluate the institutional arrangements that hold promise for buffering inequality among children. This chapter submits that the African extended family system has historically been relied upon for the care and wellbeing of a significant proportion of children. However, recent developments such as economic reversals, cultural shifts and uneven demographic transition raise questions about how much longer society can continue to rely upon this informal system? This chapter sought to answers questions about the prevalence and effectiveness of fosterage. Results reveal the wide diversity of experiences across African countries both in terms of fosterage rates, and fosterage effectiveness. While it is encouraging to see that the African extended family system still nurtures a huge proportion of African children (up to 40% in some countries like Namibia), its coverage seems to be on the decline in many countries. Results underscore how the HIV/AIDS pandemic shapes fosterage patterns across countries and they highlight the role of countries' economic performance. Also, I observe significant regional

differences in fosterage effectiveness and find that economic growth might have consequential effect on fosterage effectiveness. Even as these results shed light on several understudied aspects of children's wellbeing in Africa, many questions remain for future research. This study tracks only the quality of macro-level flow of fostered children along demographic lines. Future research could evaluate how this system works along socio-economic lines. Further, while this study shows gender differences in fosterage effectiveness, these differences are unexplained Overall, scientists and policy makers who care about children's wellbeing should increasingly pay attention to the extended family system because the sheer proportion of children who circulate within this system signal its central place in buffering inequality among children.

CHAPTER 9

CONCLUSION

This dissertation documents levels, trends, drivers, and buffers of socio-economic inequality among children in sub Saharan Africa. By focusing on inequality, it expands the discourse on the wellbeing of African children beyond the preoccupation with poverty dynamics. At a time when the world has taken giant steps in standardizing values and measures for human wellbeing (UN 1948; UN 2000), it is important to evaluate the distributional aspects of economic opportunities and social outcomes among children in sub Saharan Africa. This analysis is necessary and timely given uneven demographic transitions, as well as economic and cultural transformations that portend a future of greater inequality among children. The study develops several methodological innovations, makes key substantive findings, and puts forward theoretical propositions on the future of inequality among children in sub Saharan Africa. Further, it draws key policy, and research implications.

Methodologically, the study illustrates ways in which secondary data sources such as the World Bank's World Development Indicators, Penn World Tables, and Demographic and Health Surveys can be harnessed to explore issues of inequality among children across African countries. Specifically, it employs standard inequality measures such as the Gini coefficient, the Mean Logarithmic Deviation, the Theil index, and the coefficient of variation to estimate levels and trends in educational resource inequality among children. Further, it applies decomposition techniques to account for factors that drive inequality over time. In other words, this technique helps to answer the question: to what extent is resource inequality among children driven by changes in economic factors (such as size of a country's economy and

proportion of the budget allocated to children) or by demographic factors (size of the child population in a country and by the proportion of children who are dependent within a country)? Third, the study develops an innovative concentration index that makes it possible to examine the macro level effectiveness of the informal African Extended Family System in buffering inequality among children. Last, the study develops multivariate regression models that explain variation in child fosterage, and fosterage effectiveness within the extended family system.

My analysis helps to establish a number of key findings. First, educational resource inequality among children increased in the 1980s decade before declining slightly and remaining high thereafter. The size of countries' economies, as well as their relative allocation to children largely drives changes in inequality over time. Also, age dependency, rather than the relative size of child population within countries per se tends to drive changes in inequality. Further, my findings caution against inferring about children's wellbeing from findings that are based on adult population data. Specifically, I find that over four decades, resource inequality among children was over double the observed rates of income inequality among adults. Therefore, I corroborate previous studies that argue that children are a distinctive constituency both within households, and in my case within countries (Folbre 1988; Eloundou-Enyegue and Rehman 2009). Mortality inequality, on the other hand, is low across countries. But, I observe steep mortality gradients across socio-economic groups within countries. Further, in the absence of effective formal social safety nets, African countries typically rely on informal networks of social solidarity to buffer inequality among children. Part of this dissertation examines to what extent the extended family system has been effective in buffering inequality among children. My analysis reveals that the extended family system is still a potent mechanism for buffering inequality among children, at least in terms of scope of coverage. However, the system is

beginning to show signs of breaking down in some countries raising questions about the future of inequality among children in those contexts. Last, I identify social, economic, and cultural factors that account for changes in child fosterage rates, as well as child fosterage effectiveness within countries.

My study builds on existing theories that project levels and trends in global economic inequality (Kuznets 1955; Firebaugh and Goesling 2004; Eloundou-Enyegue and Rehman 2009) by revealing possible future trends in resource inequality among children in sub Saharan Africa. Additionally, by isolating the relative role of demographic and economic factors, I propose the pathways through which resource inequality among children can either converge or diverge. Specifically, demographic theories on the relationship between uneven fertility transitions and inequality find empirical support in this study. On informal buffer institutions, the evidence provides mixed signals. On one hand, cultural theories of westernization and family nucleation (Madhavan 2004) largely fail to find support as evidence reveals high levels of child fosterage. Instead, the high rates of fosterage support theories on altruistic behavior (Kolm 2000). Westernization and family nucleation theories find support with regards waning effectiveness of extended family system buffering within countries, over time. Perhaps as observed by Case *et al* (2004) fosterage opportunities do not tend to accrue to the neediest children. Rather, the flow of children is largely explained by the quality of one's social networks. Still, I identify several theoretical gaps in this area of study. For instance, we lack theoretical guidance on (i) under what circumstances levels and trends in inequality among children may shift or reverse (ii) factors that account for variation in fosterage effectiveness across countries and over time (iii) how to predict the future evolution of new hierarchies among African countries. The need to develop more succinct theories that can guide analytical research around issues of inequality among children cannot be overstated.

My findings make it possible to draw a few key research and policy implications. First, research on demographic dividends should focus on children's inequality. Research on children's wellbeing should examine trends and drivers of other dimensions of social and economic inequality among children that are not examined here. Additionally, future work could apply multi level modeling techniques to explain observed variation in the level of mortality gradients along socio-economic status within countries. Further, evaluative studies should examine the changing effectiveness of both formal and informal institutions. While this study makes a significant contribution in illuminating the role of the African Extended family system, it needs to be complemented with systematic evaluations of formal social safety nets for all children within countries, as well as those available for vulnerable children such as orphans. My findings suggest that in addition to the necessary attention given to poverty, policy makers may want to be aware of emerging socio-economic trends, especially the factors that drive them. To the extent that this study reveals high levels of economic and social inequality, policy makers may need to strengthen both formal and informal institutions that bridge inequality and level the playing field for children.

As the year 2015 approaches and progress towards the 2000 UN Millennium is tallied, many will celebrate achievements in children's health and education. Typically, scholars will highlight sub Saharan Africa's (lack of) achievements compared to other world regions. Likely, dialogues on how much sub Saharan Africa itself has become more and more differentiated both within and across countries remain obscure. Even fewer studies may highlight how the world of children in sub Saharan Africa diverged over time. Not only are sub Saharan African children growing up in an environment marked by unprecedented levels of hunger, poverty, malnutrition, and civil strife, but, that same world is shaped by great socio-economic

inequality. This dissertation seeks to place inequality at the center of discourse on the wellbeing of African children. I argue that rigorous research on multi-dimensional poverty dynamics ought to be complemented with equally insightful research on stratification issues because meeting basic needs does not always suggest equalizing of opportunities. This is especially critical given that inequality among current children generations portend a future of inequality.

APPENDIX A1. POPULATION SHARES AND RESOURCE RATIOS ACROSS SUB SAHARAN AFRICAN COUNTRIES (2007)

	Children in School (Total 282165307)	Population Shares	Resource Ratios	Rankings	
				Size	Income
Nigeria	58887966	**20.87%**	**0.18**	1	39
Ethiopia	33050565	11.71%	0.53	2	22
Kenya	18013937	6.38%	1.10	3	12
Uganda	17643156	6.25%	0.38	4	29
South Africa	15660234	**5.55%**	**6.30**	5	3
Madagascar	11985544	4.25%	0.16	6	40
Mozambique	10595236	3.75%	0.81	7	17
Sudan	10221273	3.62%	3.56	8	6
Ghana	8845372	3.13%	0.86	9	16
Cameroon	8477225	3.00%	0.73	10	18
Malawi	7633764	2.71%	0.38	11	30
Zambia	6701203	2.37%	0.22	12	37
Angola	6517596	2.31%	1.32	13	10
Rwanda	6105218	2.16%	0.30	14	32
Cote d'Ivoire	5818840	2.06%	1.29	15	11
Zimbabwe	5225604	1.85%	0.90	16	13
Mali	4816668	1.71%	0.49	17	26
Burkina Faso	4565171	1.62%	0.72	18	19
Senegal	4323221	1.53%	0.90	19	14
Burundi	3929590	1.39%	0.24	20	35
Benin	3798851	1.35%	0.40	21	28
Niger	3724063	1.32%	0.45	22	27
Sierra Leone	3684473	1.31%	0.38	23	31
Chad	3679994	1.30%	0.53	24	23
Guinea	3662115	1.30%	0.56	25	21
Togo	2685146	0.95%	0.28	26	34
Congo, Rep.	1666040	0.59%	0.53	27	24
Liberia	1532271	0.54%	0.19	28	38
Centr. African Rep.	1309265	0.46%	0.13	29	41
Mauritania	1285157	0.46%	0.58	30	20
Namibia	895062	0.32%	3.25	31	7
Lesotho	863566	0.31%	2.66	32	8
Guinea-Bissau	786193	0.28%	0.23	33	36
Gabon	713964	0.25%	2.37	34	9
Botswana	709095	0.25%	7.49	35	2
Gambia, The	605550	0.21%	0.28	36	33
Swaziland	504517	0.18%	4.94	37	4

APPENDIX A1. (CONTINUED)

	Children in School (Total 282165307)	Population Shares	Resource Ratios	Rankings	
				Size	Income
Mauritius	294029	0.10%	10.68	38	1
Comoros	291932	0.10%	0.50	39	25
Equatorial Guinea	263314	0.09%	0.88	40	15
Cape Verde	193327	0.07%	4.03	41	5

APPENDIX A2. COMPARISON OF COUNTRIES FOR EDUCATION EXPENDITURE

Country	Size of Economy (GDP)	Child Population	Educn Expenditure(%)
South Africa	5.45642E+11	14980209	5.5
Nigeria	3.72217E+11	63258597	0.8
Sudan	1.03899E+11	16152405	10.3
Angola	95652692322	8009880	2.6
Ethiopia	94665130976	34759792	4.6
Kenya	82738753445	16125446	6.2
Cameroon	54824797797	7703549	2.8
Mozambique	50436444153	9643722	4.2
Cote d`Ivoire	47841390614	8260837	4.6
Ghana	41507236494	8924693	4.5
Uganda	39792837829	15051839	4.2
Guinea	36483426689	4143685	1.8
Zimbabwe	30481870250	5043916	4.6
Chad	30058399766	4874587	1.7
Zambia	28279126100	5690803	2.2
Mauritius	25553771206	299298	4.0
Senegal	23998617741	5232012	3.8
Burkina Faso	21251508303	6770902	4.5
Malawi	20177771432	6730976	4.3
Botswana	19245237197	646468	9.4
Madagascar	17082483506	8118276	2.9
Mali	16845227383	5499466	3.6
Namibia	14214232502	791978	6.8
Congo, Republic of	14081100727	1450474	2.8
Gabon	13050953888	531529	3.7
Benin	12516081777	3640591	3.5
Niger	12297803100	6989592	2.8
Rwanda	11499742755	3987352	3.1
Equatorial Guinea	11354316228	266681	0.7
Sierra Leone	10773954293	2335764	4.4
Swaziland	8918794420	467561	6.7
Mauritania	7589568595	1256642	3.1
Togo	5995835854	2557924	3.9
Burundi	5381822316	3111298	4.4
Lesotho	4927313641	802145	12.4
Cape Verde	4064675051	185511	5.8

APPENDIX A2. (CONTINUED)

Country	Size of Economy (GDP)	Child Population	Educn Expenditure(%)
Centr African Rep.	3934598252	1751823	1.8
Gambia, The	2511238093	688684	2.5
Liberia	1482524100	1564724	5.8
Comoros	1136358845	240227	3.8
Guinea-Bissau	1014051708	657009	5.2

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